APRIL, 1955

Industrial FINISHING

Published Monthly in the Interest of Product Cleaning and Painting by Practical Publications, Inc., 1142 N. Meridian Street, Indianapolis 4, Ind.

A Safe Sign to Follow

AT RELIANCE, a thorough analysis of all factors involved in any finishing problem is a prerequisite to the formulation of the proper materials to be used. Reliance manufactures "tailor-made" Stains, Fillers, Lacquers, Varnishes, Primers, Undercoats, Enamels and Special Coatings for every known surface, to be applied by spraying, dipping, flowing, roller coating — air dried or baked. May we have the pleasure of serving you?

RELIANCE VARNISH COMPANY

Incorporated

Affiliated Factories in

LOUISVILLE, KY.

ASHEVILLE, N. C. BRIDGEPORT, CONN. CHICAGO, ILL. LOS ANGELES, CALIF.

AN IC *FLASH* PRIMER

may be your answer to Adhesion and Corrosion Problems

Have you resisted giving your product that needed EXTRA protection because of the cost and inconvenience of applying a primer?

With an IC Flash Primer you can spray a light coat (.2 to .3 mils) and follow within seconds IN THE SAME SPRAY BOOTH with your regular topcoat enamel, baking both primer and topcoat in one pass through the oven. If applied by dipping, or at thicker films, a somewhat longer flash-off time is required.

IC Flash Primers SAVE TIME—SAVE FLOOR SPACE—SAVE CAPITAL INVESTMENT.

ADDED COST—NEGLIGIBLE
ADDED PROTECTION—VERY SUBSTANTIAL

Send for your copy of new booklet "Corrosion—What causes it? What to do about it?"

IC® Chemical Corporation
Finishes Division

Factories: **Chicago, Illinois • Cincinnati, Ohio • Elizabeth, New Jersey • Los Angeles, Calif. • Newark, New Jersey Mexico City, Mexico**

In Canada, IC products are sold by AULCRAFT PAINTS LTD., Toronto, Ont., under its trademarks.

EPON RESIN does it!

a tougher, more corrosion-resistant primer for metal lawn furniture . . . *at lower cost*

New Epon primer, formulated by The Glidden Company, Cleveland, is the key to a better finish on metal lawn furniture.

HERE'S HOW...

XPOSED to blistering sunlight, n, and often to corrosive salt breezes—lawn furniture must e a tough, corrosion-resistant sh.

For this reason, the Troy Sun- de Company has set high stand- s of durability and appearance finishes on its quality metal n furniture. When metal short- s made it necessary to abandon rome plating, Troy engineers de a careful study of paints and nt-finishing methods. Tests owed that the *primer* coat was the to paint durability . . . *and that Epon resin-based primer gave roved appearance and the high- degree of resistance to corrosion.*

The Epon resin-based primer is applied by rotary spray coating. The finish coat is applied by electrostatic spraying. Both operations are completely conveyorized. Thanks to the excellent adhesion and levelling properties of the Epon primer, expensive sanding operations are reduced to a minimum. Troy engineers estimate that the new finishing system saves as much as a dollar a gallon on materials, in addition to savings in labor costs.

• • •

Call on our sales offices for names of suppliers who sell Epon resin coatings. Write for the full Epon coatings story in the new brochure, "Planning to Paint a Pyramid?"

SHELL CHEMICAL CORPORATION

Chemical Partner of Industry and Agriculture

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Toronto • Montreal • Vancouver

ZENITH TV CABINETS
BY ANDERSON-BOLLING
USE CUSTOM FINISHES
FOR SALES APPEAL

Anderson-Bolling Mfg. Co. produces steel TV cabinets for Zenith, that feature a tough, mar-resistant finish in soft new decorator color combinations.

Our finish specialists worked hand in hand with Anderson-Bolling setting up an efficient electrostatic finishing operation.

The finish was created in our studios to match the exacting color and quality standards set by Zenith. The result of this cooperation and experience is added sales appeal for Zenith TV.

The Better the Finish, the Better the Buy

GRAND RAPIDS VARNISH CORPORATION

MAKERS OF THE FAMOUS Guardsman® FINISH AND Guardsman® CLEANING POLISH

GRAND RAPIDS, MICHIGAN

APRIL, 1955
Vol. XXXI, No. 6

BPA

. monthly magazine for com-
any executives, production su-
erintendents, process engineers,
hemists, purchasing agents,
aint shop and finishing depart-
ent foremen of industrial plants
here product surface cleaning
nd painting are major opera-
ons in the manufacture of parts
nd products of all kinds.

Industrial FINISHING

W. H. ROHR, Editor P. C. BARDIN, Associate Editor

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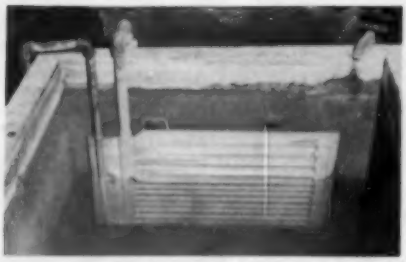
New Product Designs. A key to company survival under growing competition is the development of new product designs and advanced sales planning.

Leadership will go to the company whose products introduce new ideas and features. As extensive research programs continue and business becomes increasingly competitive, we can expect the design life of our products to continue to shorten. Survival in this atmosphere requires advance product and sales planning.

* * *

To Heat Liquids. A new type of heat transfer unit has solved heating problems for one company in connection with stainless steel pickling and passivating. The units, known as Platecoil, consist of two embossed plates of metal welded together to provide channels for passage of heating or cooling media. They are made by Tranter Mfg. Co., Lansing, Mich.



A Platecoil unit heats the liquid safely.

For heating acid-contaminated rinse and caustic solution tanks, many companies have found that bubbling steam through the solution is unsatisfactory and normal steam coils are too bulky and expensive. With stainless steel Platecoils, "space is conserved, safety is improved, control is maintained and cost is low".

* * *

Steel Shipping Containers. Industry is becoming increasingly conscious of the value of brand new steel shipping containers for product portection and sales appeal. Today virtually any liquid or dry product can be shipped in new steel containers, as the direct result of company and industry sponsored research into new and improved interior and exterior drum coatings.

* * *

Toy Competition. During the American Toy Fair held in New York early in March, B. F. Michton, chairman of Ideal Toy Corp. predicted that 1955 will be the most competitive year for the toy business since 1941. He said, "Not only will the industry struggle to top last year's one billion dollar figure, but only the most efficient firms will be able to surmount the large number of critical problems facing toy manufacturers in 1955."

The Fair was a success. More than 14,000 buyers attended. Practically every order placed specified earlier

THIS is IT!!!

DOLVAR

BURN RESISTING

AIR DRY OR BAKE

WATER WHITE

• You will be hearing a lot about this new, outstanding catalyzed, clear synthetic finish for wood. High in solids. It is so tough you can't knock it off with a hammer! A burning cigarette will not even blister or mark it after two or three minutes. Positively will not cold-check, print, soften or pad-mark.

Withstands alcohol, water, nail polish, lacquer thinners, etc.

NON-YELLOWING!!

Order a drum today—with a positive guarantee of satisfaction!

"From the start consider the Finish"

V. J. DOLAN & COMPANY, Inc.

Manufacturers of *"Unquestionable Quality"*

INDUSTRIAL FINISHES

1830 N. Laramie Ave. Chicago 39, Ill.

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POTTER

TOPS ALL for THINNERS At Lowest Cost

Nobody tops POTTER for highest quality thinners at lowest cost. Add unexcelled service and quick delivery and you've got the reason why we *satisfy*.

How do we do it?

- Speciolization—over 29 years experience in making only thinners.
- Large Sales Volume.
- Streamlined Overhead.
- Solvent bought in tank car lots only.

Over 600 Satisfied Users

POTTER'S THINNERS ARE EASY TO TEST. *Just mix with your lacquer and observe results. If it mixes all right and dries all right ——— it is all right.*

We can easily *"tailor make"* special thinners for your difficult applications. Mail the coupon today for FREE sample.

POTTER PAINT CO., INC.
CORTLAND 1, N. Y.
THINNER SPECIALISTS

Send me a FREE test sample. ☐

The product we make is:_____

We use Lacquer Thinner for:
☐ Spray ☐ Dip ☐ Cleaning ☐ Other_____

We use Lacquer Thinner on:
☐ Metal ☐ Wood ☐ Other_____

We want it to dry:
☐ Fast ☐ Slow ☐ Medium

Name_____

Address_____

City_____ Zone____ State_____

delivery dates than heretofore. Some prices were higher, but there was little resistance.

Now this foretells good active business for this year—but it is a challenge which the manufacturers must promptly meet. With orders up 25%, it is time to evaluate present methods and materials, and make the necessary changes to increase production, maintain or improve quality and to hold the cost-line.

* * *

Plastic Resists Chemicals. Do you have a problem of chemicals attacking pipes, ducts and stacks? According to "Chemmunique" (published by Atlas Powder Co.) a reinforced polyester resin base plastic known as Atlac 382 will do the job.

Tests have been completed over a period of a year at ordinary temperatures, and three months at elevated temperatures. Results show excellent resistance to about two dozen kinds of chemical abuse. These include saturated salt solution, 10% or 20% sulfuric, 10% sodium hydroxide, 10% nitric, etc.

Tanks, ductwork, fume hoods, stacks and pipe made of this plastic are now available.

* * *

Dry Automatic Fire Protection systems are now available for use in paint dip tanks, spray booths, ovens, driers, paint mixing and supply rooms.

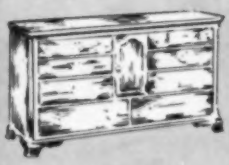
Underwriters Laboratories, Inc. has approved this dry system after exhaustive tests. It has many of the same features of the wet or CO_2 systems in that windows and doors are automatically closed in case of fire, fans and motors are cut off, drain valves are opened and alarms are sounded. At the same time, dry chemical is expelled through distribution

(Continued on page 79)

PROVEN

Precedent..

IS SAFER THAN HOPEFUL EXPERIMENTATION



For many years many of the most successful makers of furniture have relied on Spruance products to give them the kind of finishes that produce sales on the show-room floor.

Specifically Spruance Quality

STAINS • FILLERS • SEALERS
LACQUERS • SYNTHETIC ENAMELS
PRIMERS • PAINTS & VARNISHES

have proven themselves to be dependable — economical and uniform, under actual production schedules.

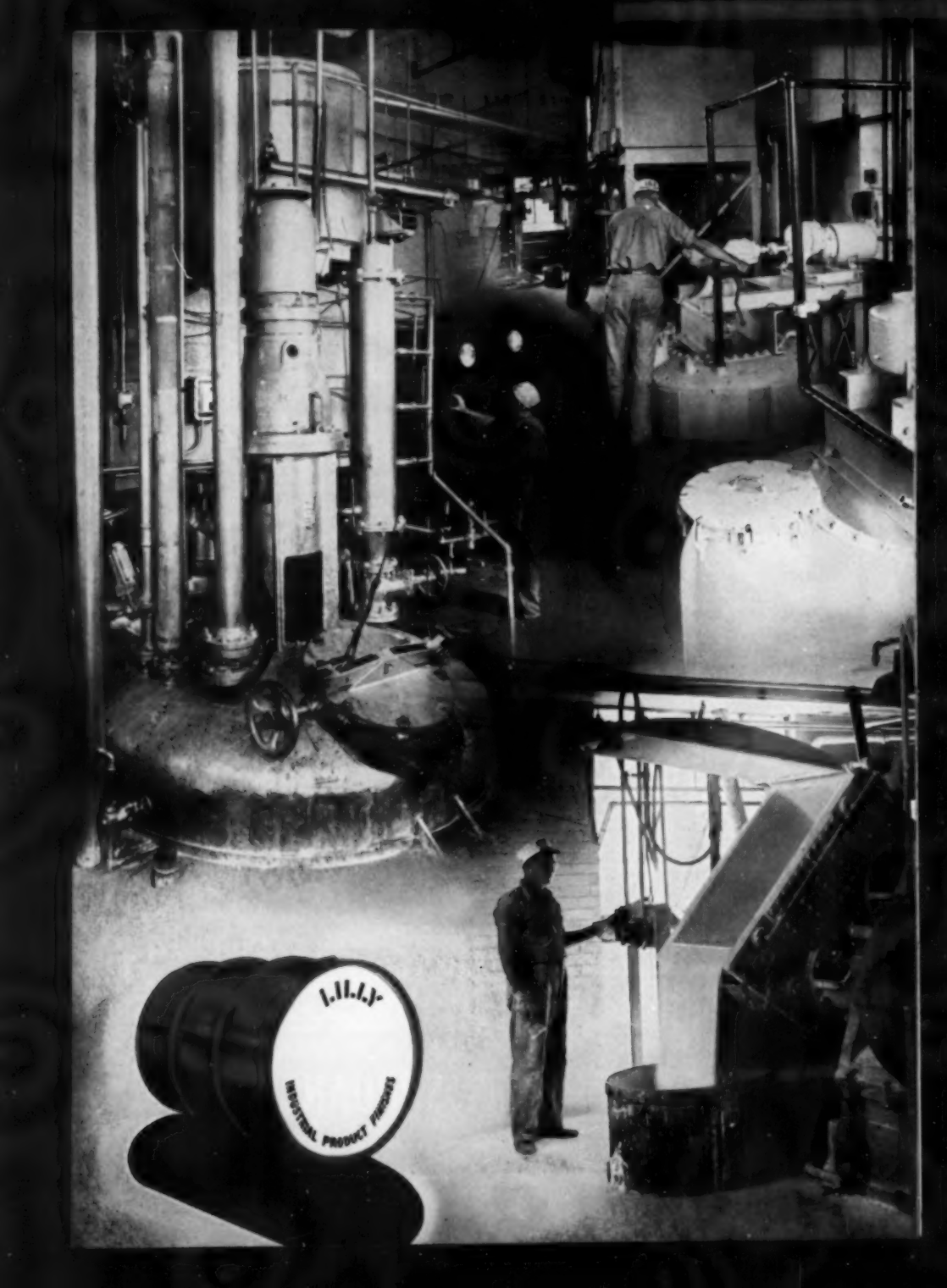
Why experiment — take chances — gamble — when you can use Spruance products and be sure of results?

Our widely experienced laboratory technicians and field service men are qualified and anxious to lend you all assistance.

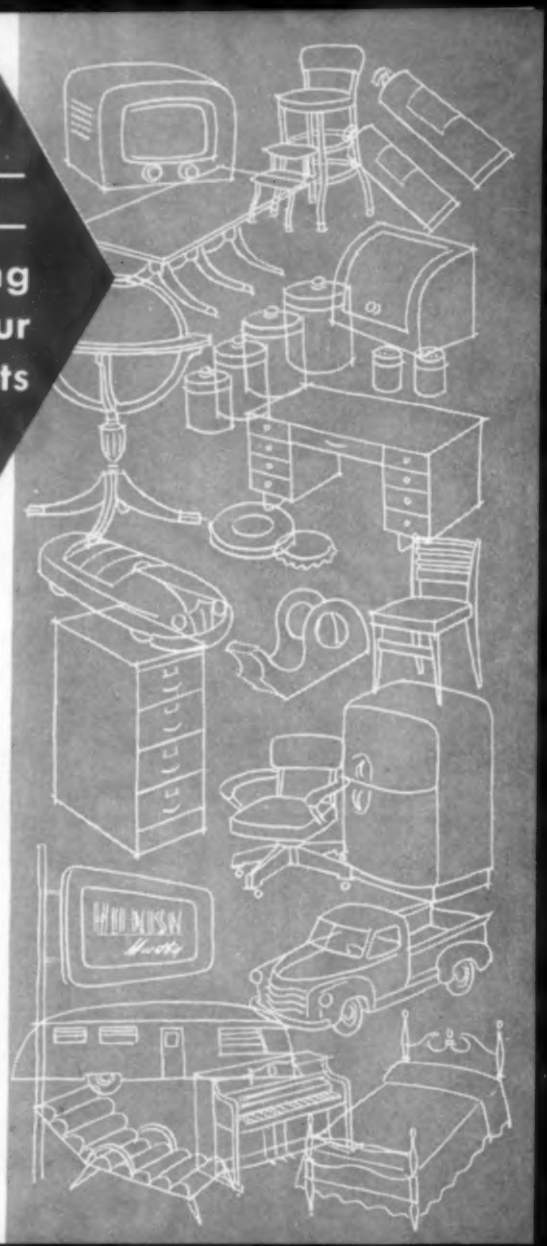
May we hear from you?

THE GILBERT SPRUANCE CO.

Philadelphia 34, Pa. Winston-Salem, N. C.


I.U.I.P.
INDUSTRIAL PRODUCT PRIDE'S

Whatever Your Product— If It's Painted— There's a Lilly Coating to Fill Your Individual Requirements



Or, if not immediately available, let us remind you that development of coatings for manufacturers' specific use is one of the more important technical services offered by Lilly.

Technical laboratories in each of the three Lilly plants (Indianapolis, Gardner and High Point) are augmented with a long-range research program at Purdue University and North Carolina State College.

Technical service isn't everything, but—along with the years of finishing experience and modern production methods—it goes a long way toward making Lilly a leader in the field of INDUSTRIAL PRODUCT FINISHES.

Serving Industry Since 1865

LILLY VARNISH COMPANY
666 S. CALIFORNIA STREET
INDIANAPOLIS, INDIANA

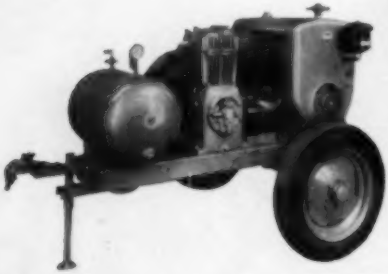
Serving industry with all types of product finishes and coatings:
VARNISHES • LACQUERS • ENAMELS
METAL LITHO COATINGS • STAIN and WOOD FILLERS

Affiliated companies at High Point, North Carolina and Gardner, Massachusetts

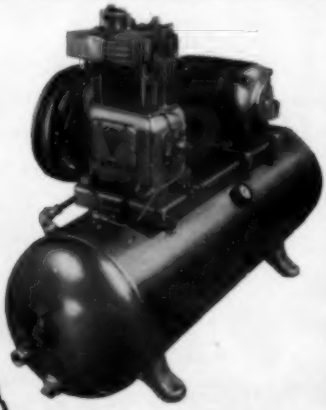
Binks Complete Line offers you *the right size and type of* AIR COMPRESSOR to meet your special needs

● For home and light maintenance work

● For small one-man contractor use



●Heavy duty air compressors for use by general painting contractors



●Stationary units for small plants and garages

● Heavy duty industrial systems for factories

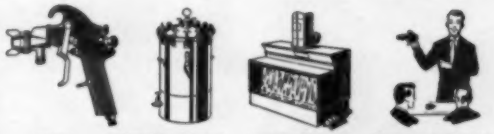
For each job there is an air compressor that is just right...one that gives you the volume and pressures you need with maximum flexibility and economy. The Binks Line of air compressors gives you a choice of 50 models from compact ¼ h.p. portable units to almost any size you need... each designed to do a specific job or to fit into a given air supply system. Before you buy or specify a new compressor, investigate the Binks Line ...it will pay you!

To be sure you get the right compressor

Ask your jobber or write direct to us for a copy of *How to select an Air Compressor* which tells you what to look for in an air compressor and *Binks Catalog 810* which shows available models, accessories, etc. Or, if you wish, a Binks Engineer will call at your plant and help you pick the right equipment to give you long service and low operating costs. No obligation.

Binks

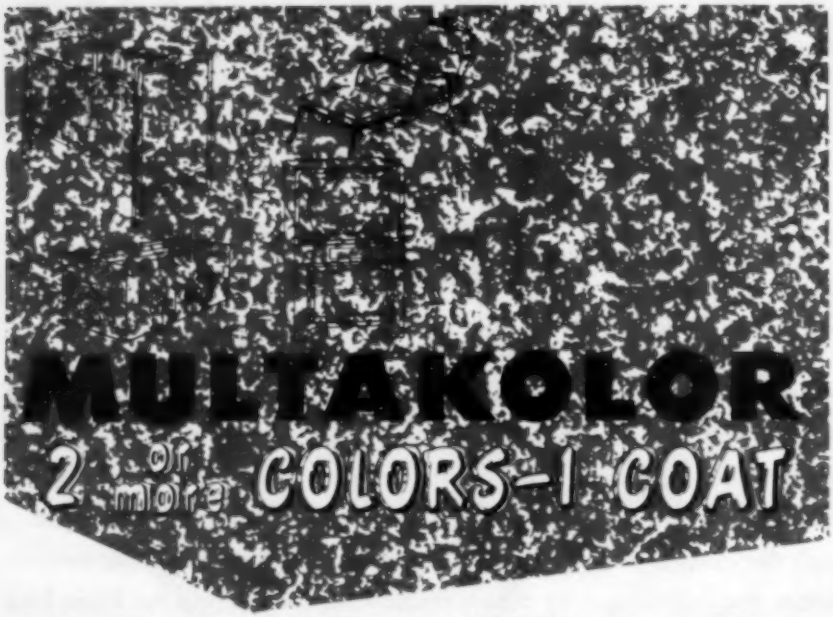
EVERYTHING FOR SPRAY PAINTING



GUNS MATERIAL TANKS SPRAY BOOTHS FREE INSTRUCTION

BINKS MANUFACTURING COMPANY
3116-40 Carroll Ave., Chicago 12, Ill.

REPRESENTATIVES IN PRINCIPAL U.S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY



Only one coat of this revolutionary new enamel gives you two or more separate and distinct colors. It bonds firmly and provides amazing resistance to abuse.

Multakolor is economical—one coat gives a textured finish that hides all imperfections in wood, composition materials and metal. Undercoating and sanding in most cases are entirely eliminated. Multakolor does not create an overspray, resulting in a further saving of material and labor. Applied with standard spray equipment—Multakolor air dries in 15 minutes to touch and can be handled in one hour.

Multakolor's eye appeal cuts sales resistance. Try it—send for full details and sample today. A technical representative is available for consultation on request.

MULTAKOLOR IS IDEAL FOR:
composition board, wall board, beaver board, asbestos board, wood, paper, gypsum, masonite, ferrous and non-ferrous metals and many other materials. USE IT ON ANY PRODUCT—furniture, TV and radio cabinets, toy chests, etc.

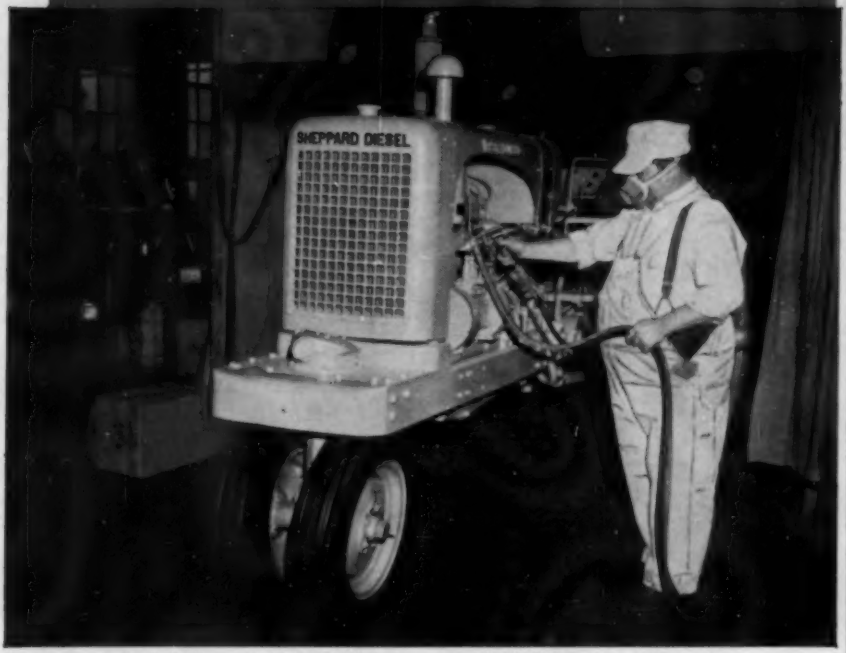
30 STOCK COLOR COMBINATIONS
OR CHOOSE YOUR OWN HARMONIOUS COLORS

PAINTS • SYNTHETICS
UNITED
LACQUERS • ENAMELS

United LACQUER MFG. CORP.
LINDEN, N. J.

Schmieg
CENTRI MERGE
SPRAY BOOTHS
Efficient, Economical,
Safe and Clean
Illustrated is a large haulaway truck in a Schmieg Centri-Merge Spray Booth designed and engineered to meet the most exacting operational requirement, which quickly demonstrates its superiority in the elimination of overspray.
Pigment and impurities are driven from the air stream by Schmieg Centri-Merge in a literal whirling tornado of water, removing the hazards of spray painting, giving top operational efficiency for many years at lowest maintenance cost.
When you are considering the installation of Spray Booths, Dust and Fume Control Equipment, Mechanical Washers, Industrial Ovens and Production Finishing Systems, be sure to call Schmieg engineers first.
THE best AIR PURGE is CENTRI MERGE
Schmieg INDUSTRIES INC.
Engineers & Manufacturers
DETROIT, MICHIGAN
P. O. ADDRESS: 23930 SHERWOOD, CENTER LINE, MICH.

Sheppard Diesel



In the R. H. Sheppard plant, Diesel tractors are coated with Pittsburgh's synthetic primer and then re-coated in 30 minutes with Pittsburgh's alkyd enamels which set up so rapidly that trim enamel and decals can be applied one hour later.

PITTSBURGH

PAINTS • GLASS • CHEMICALS • BRUSHES

PITTSBURGH PLATE GLASS

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Farm Tractors *are Finished with Special Pittsburgh Enamels*

Pittsburgh contributes to the eye appeal and long life of many agricultural implements —such as the Diesel farm tractors made by the R. H. Sheppard Company, of Hanover, Pa.—by providing special enamels of unusually high quality for these products.

The protective coatings for these tractors must be extra tough and durable. Probably no other type of equipment is subjected to such a wide variety of conditions. These finishes must resist the rigors of severest weather. They must withstand the corrosive effects of fertilizers, manure and spraying compounds.

As the result of working closely with leading producers of farm machinery for many years, Pittsburgh has developed special alkyd synthetic enamels which retain their high gloss and color and are remarkably long-lasting. These finishes can be applied with unusual speed, saving time and money.

Pittsburgh's wide experience in this and many other industrial fields, may be helpful in solving *your* finishing problems. Wire, write or phone the Pittsburgh Paint plant nearest you. We'll be glad to have one of our engineers discuss your requirements with you, without cost or obligation.

PITTSBURGH PLATE GLASS CO., Industrial Paint Div., Pittsburgh, Pa. Factories: Milwaukee, Wis.; Newark, N.J.; Springdale, Pa.; Atlanta, Ga.; Houston, Texas; Torrance, Calif.; Portland, Ore. Ditzler Color Division, Detroit, Michigan. Thresher Paint & Varnish Division, Dayton, Ohio. Forbes Finishes Division, Cleveland, Ohio. M. B. Suydam Division, Pittsburgh, Pennsylvania.

PAINTS
PLASTICS • FIBER GLASS
COMPANY

Beautiful Effects

are achieved on household items with these new **RANDOLPH FINISHES**

An exciting profusion of brass, wrought iron and wood products are bringing decorative magic into American homes. The glints, tones and colors that are helping to make sales for many of these items are the result of a wonder-working new series of Randolph Finishes especially developed for the latest trends in home decoration.

These are among the finishes we are introducing for this new era of beauty in the home!

CLEAR LACQUER for BRASS # 8000

Excellent performance in dip or spray application. Flawless adhesion on polished surfaces.

WROUGHT IRON BLACK LACQUER

Spray or dip application. Excellent adhesion.

WOOD LACQUERS

New additions to our Wood Lacquer line are a new Water White Clear Lacquer and a High-Solid Lacquer for cold application; rubs well, good cold check performance.

Write us today and tell us your individual needs! We are specialists in the "custom-finish!"

LACQUERS
ENAMELS
DOPES
THINNERS

Randolph

PRODUCTS COMPANY
CARLSTADT, NEW JERSEY

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Offers you additional information on the materials, equipment, accessories and supplies advertised in this issue. Just fill in the name of advertiser and page number of advertisement in question, on the card below; print or type your own name, your company's name and address, detach and mail. No postage required.

For further information and copies of manufacturers' literature mentioned in the editorial departments, use "Reader Service" return card in the rear section of this issue.

Industrial FINISHING

April 1955 Issue

Reader Service Department

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Street Address.....

City.....*Zone*.....*State*.....

At Your Service

Many inquiries come to INDUSTRIAL FINISHING Magazine for information about technical problems, methods and processes; and for sources of supply for materials, equipment and supplies to be used in connection with surface preparation and conditioning, paint application, sanding, paint drying and baking, rubbing, polishing, etc.

Surfaces to be completely or partially coated for protection, decoration or for any other purpose, include components and articles made of metals, plastics, woods, and composition materials; also paper, leather, rubber and fabrics.

The services of testing laboratories, finishing consultants and special technicians are often requested. These inquiries are promptly answered. As a result, new products, materials and sources of information are continually being uncovered; valuable contacts are made and timely suggestions for future articles to be published are developed.

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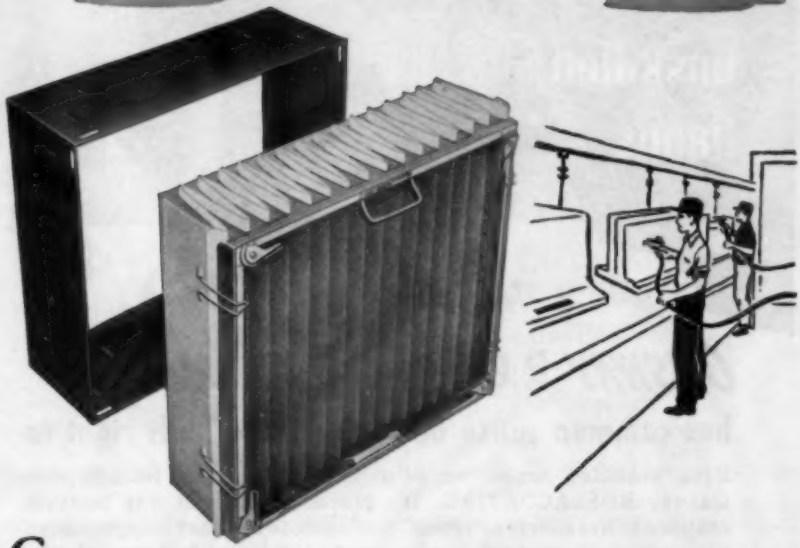
1142 N. Meridian Street

Indianapolis 4, Ind.

Airmat PL-24

the *Start* of a FINER *Finish*



CLEAN air costs so little—can save so much in reducing rejects and "do-overs". A filter favorite for this vital makeup service is AAF's Type PL-24 — a dry-type unit offering the highest cleaning efficiency of any commercial unit filter *plus* low initial and operating cost.

The PL-24's unique design provides 28 sq. ft. of effective filtering area in a compact unit 2' x 2' x 8" with positive seal against air leakage. Low-cost Airmat paper filtering media is quickly replaced when soiled, restoring filter immediately to original efficiency.

Unit construction simplifies installation for any capacity requirements, including straight bank or space-saving "V" arrangements. For complete product information, call your nearest American Air Filter representative or write for Bulletin 230.

AAF Herman Nelson

American Air Filter

COMPANY, INC.

210 Central Avenue, Louisville 8, Kentucky

American Air Filter of Canada, Ltd., Montreal, P. Q.

TOP PRODUCTION...

with unskilled hands

GASWAY ROLLACOATING...

has common sense and experience built right in

Even unskilled hands can turn in top production records with Gasway ROLLACOATING. It's proved the fastest way to apply coatings to flat sheets or panels. And users report that inexperienced help can show production rates up to 100 lineal feet per minute.

Gasway ROLLACOATING has the experience built in. It's the controlled finishing method. The amount of finish laid on the work is precisely metered—and it all goes right where you want it. Feed in the material, and ROLLACOATING does the rest of the job. A perfect finishing job every time—film thickness is controlled to within a tenth of a mil, and coverage is always 100%. You get more mileage from every gallon of paint, because there's no waste, no overspray, no puddling.

Compare other finishing methods with the speed, quality, and economy of easy Gasway ROLLACOATING. Write for all the facts.

The Gasway CORPORATION

Gasway makes a complete line of machines for roll-finishing flat sheets and panels up to 72" wide, and the only completely integrated continuous cleaning-treating-finishing-baking lines for flat strip and webs.

6465 NORTH RAVENSWOOD AVENUE, CHICAGO 26, ILLINOIS

Watson-Standard's EXPERIENCE IN FORMULATING SPECIALIZED COATINGS IS INVALUABLE TO METAL FINISHERS

If your product includes metal finishing in its manufacture, it is wise to consult the Watson-Standard Laboratories on your coating problems. The services of our laboratory and field technicians are available without obligation.

"Knowledge, skill and technique through Experience"

Watson-Standard Co.

225 Galveston Ave., Pittsburgh 30, Pa.

NEW YORK OFFICE: 15 Park Row, New York 38, N. Y.
CHICAGO OFFICE: 55 E. Washington Street, Chicago 2, Ill.

W-S

INDUSTRIAL FINISHES • PAINTS • PLASTICS • CHEMICALS

Weatherproofs in ONE OPERATION

Stanley 40X-610 one-package WASH-PRIMER

Now steel or iron parts can keep the weather at bay throughout a year of outdoor storage without topcoating. Reason: Stanley 40X-610. This one-package, one-operation wash primer for spraying, brushing, or dipping forms a weather-tight skin that lasts. Its resistance to corrosion and rust creep is excellent. And Stanley 40X-610 may be used with most topcoats. Find out more about this low-cost, easy-to-apply outdoor protection... write today for the new bulletin on Stanley 40X-610 to: Stanley Chemical Company, 41 Berlin Street, East Berlin, Connecticut.

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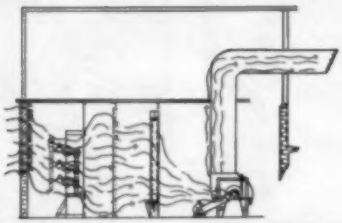

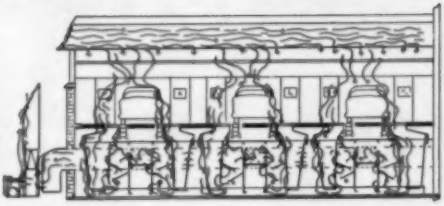

Here's an Unusual Finishing System by Peters-Dalton. It Requires an *Unusual* Disposition and Use of Spraying and Drying Equipment in a Major Automobile Plant

PETERS-DALTON are exclusively contract manufacturers. Knowing this, a major automobile company called upon us to meet its special requirements. This manufacturer wanted a Finishing System installed, of a type comparatively unknown to industry. It requires this system for maintenance of its own high standards of product finish. The installation by PETERS-DALTON now assures this company of delivery of its automobiles with 100 per cent perfect finishes. The Finishing System receives automobiles after leaving final assembly. The cars move through the upper level of the system on conveyors where any necessary repainting or touchup is made. Cleaning of paint-laden exhaust air is done by equipment in the basement level . . . heating and cleaning of supply air is completed outside the building.

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. . . the **EXPERIENCE** that goes into the **PLANNING** and **ENGINEERING** of **MAHON EQUIPMENT** is the item of **GREATEST VALUE to YOU!**

Directly above is a view inside the enclosure which houses the Complete Mahon Finishing System installed in the General Purpose Control Department of the General Electric Plant, Bloomington, Illinois. At Right above: Mahon Open-Face Hydro-Filter Spray Booth designed to meet specific painting requirements of certain units produced by this Department. At the extreme right is the Control Panel for the entire system. All Starters, Electrical Controls and Enclosures are General Electric.

Rocking Flow-Coating Machine and part of the Ventilated Radiant Area and Drip Zone—part of the conveyorized finishing system at General Electric.

M

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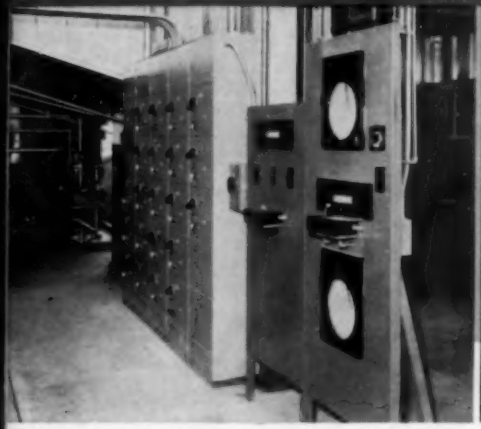

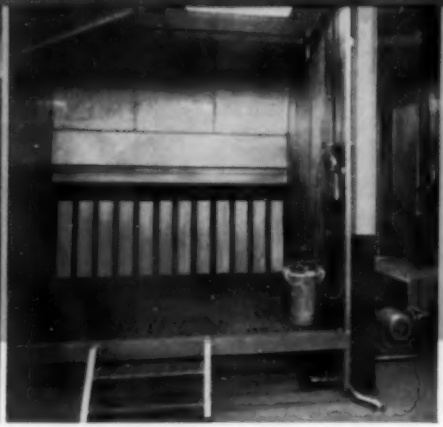

General Electric CONTROL ENCLOSURES are Painted in a COMPLETE, MODERN MAHON FINISHING SYSTEM!

Products of the General Purpose Control Department of General Electric, Bloomington, Illinois, now receive their fine finish in a completely new, highly efficient Mahon Finishing System. Facilities are provided for both continuous conveyorized processing and painting of normal units and individual handling of larger units. The continuous processing system includes a Five-Stage Metal Cleaning and Rust Proofing Machine, Dry-Off Oven, Cooling Tunnel, Flow-Coater, Flash-Off and Drip Zone Enclosure, and a Finish Baking Oven. Both Ovens and the Cooling Tunnel are located overhead. In addition to the conveyorized system, a Two-Stage Metal Washing Machine was provided together with a Special Open-Face Hydro-Filter Spray Booth and a Batch Type Finish Baking Oven to handle unusually large units. Other equipment includes a Filtered Air Supply System and Stripping Facilities. The entire system is modern in every respect and is engineered into a surprisingly small area of floor space. All facilities are housed within an air conditioned and pressurized enclosure. If you are contemplating new finishing equipment, you, too, will find that Mahon engineers are better qualified to advise you on both methods and equipment requirements . . . and better qualified to do the all-important planning, coordinating and engineering of equipment—which is the key to fine finishes at minimum cost. You will find also, that Mahon equipment is built better by Mahon for more economical operation over a longer period of time—a point which should receive your careful consideration when comparing initial costs. See Sweet's Plant Engineering File for information, or write for Catalog A-655.

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Engineers and Manufacturers of Metal Cleaning and Pickling Equipment, Metal Cleaning and Rust Proofing Equipment, Spray Booths, Flow and Dip Coaters, Drying and Baking Ovens, and Complete Conveyorized Finishing Systems.

MAHON

Several small spray booths are available for spray finishers working on the smaller parts.

Optical Instrument Finishing Features *Diversification*

BY WALTER RUDOLPH

Different metals; cleaning and pre-treating process; pressure impregnation of castings with resin sealer; spray painting; air-drying and bake finishes. All of this and more calls for a variety of procedures, the end result of which is to obtain high quality enduring finishes.

SLIGHTLY over 100 years in age, Bausch & Lomb Optical Co., Rochester, N. Y., today enjoys an enviable reputation in its field. No small segment of its overall manufacturing picture is that concerned with the production of hundreds of optical instruments which are unfamiliar to the layman. The list is barely scratched when we name, for instance, microscopes, microtomes, refractometers, colorimeters, spectrographic and photomicrographic equipment.

[PAGE 26]

Giving these nice new optical instruments an attractive, durable and life-long finish, poses numerous problems. Variety is the spice of the finishing program at the Bausch & Lomb establishment. You could just about name any specific type or kind of finishing procedure and find it, or some phase of it, going on in this plant.

Sixty Different Paints; Several Kinds of Metal

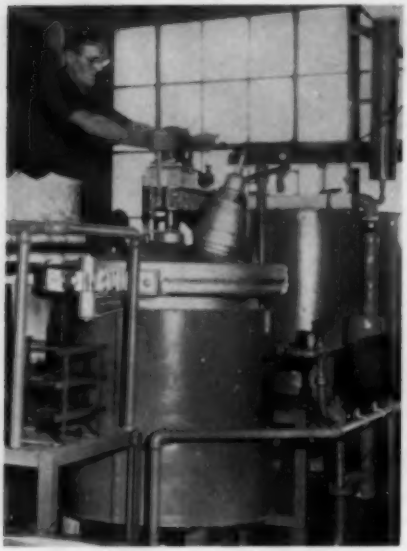
Upwards of 60 different kinds of paint—mostly synthetic enamel—are constantly "on tap" in the B & L finishing rooms. The extreme diversification in finishing was given some help a year or so ago when the compact department was remodeled to incorporate over a dozen small spray booths.

A chemical blackening at one of tanks.

Buffing parts for microscopes before . . .

The metals that are finished run the gamut of manufacturing experience; they include stainless steel, aluminum, magnesium, gray iron and ordinary sheet metal. The finishing setup then, must concern itself chiefly with job lots of a great variety of products.

Standard metal preparation begins in the polishing and sanding room near the cleaning and painting areas. For instance, all parts and products that are scheduled to receive a wrinkle finish will wind up with about No. 60 emery polishing. Smooth finishes are preceded by a series of emery polish-



An autoclave is used to impregnate resin into castings for a more perfect finish.

ings culminating at No. 150 grade. A fine adjusting block for a microscope is polished against a hard-faced wheel, No. 150 grit, using a non-grease compound.

Diversified Cleaning and Pre-Treating of Metals

The great variety of metals used in the products made here demands diversified cleaning. Included in the cleaning setup are a number of comparatively small tanks located near the paint room. The "pre-treating" of metals, as it is called, includes anodizing of aluminum, "Dow" treatment for magnesium, phosphatizing of iron and steel, and a black oxide bath for the products with copper-base metals such as brass, bronze, etc. Discussion of any or all of these "pretreats" would require more space than we have available here.

Castings Are All Pressure Impregnated Before Painting

We might note one particular process of "pre-treating" developed at the Bausch & Lomb plant to forestall pin-holes and other imperfections in castings. This involves vacuum impregnation of the parts with a thermosetting resin; the operation is carried out in an autoclave. The process guarantees that castings so treated are air-tight and water-tight and, as a result, they will retain a very high quality finish.

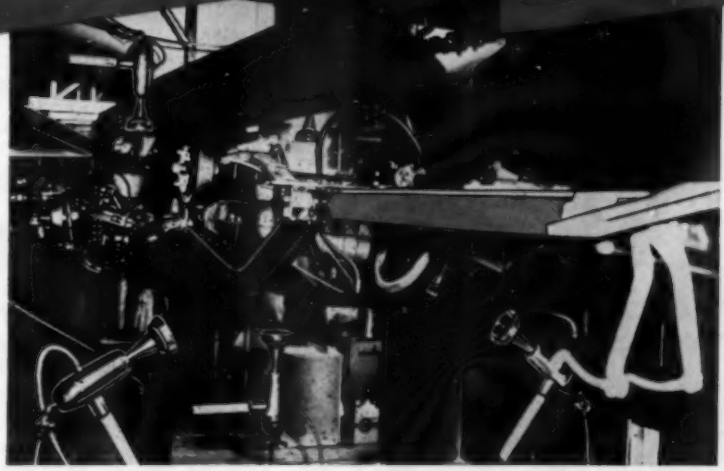
When the castings are racked and shut up in the autoclave, the vacuum machine pulls all oil, moisture and air from pores of the metal surface; this operation requires about half an hour. Then the resin solution is released and

Painting products in water wash booth.

9 TIMES MORE PAINT MILEAGE ON AUTOMOBILE CHASSIS!

STUDEBAKER gets a better, more uniform, paint job on chassis as production is increased and finishing costs are cut substantially with

RANSBURG NO. 2 PROCESS Electrostatic Spray Painting*



● When Studebaker Division, Studebaker-Packard Corporation switched to Ransburg No. 2 Process of Electrostatic Spray painting on their automobile chassis, paint mileage was increased 9 times.

By simply putting the paint where it's supposed to go, Studebaker cut daily paint consumption on the chassis production line from 14½ drums to 1½ drums. And, still they are painting 6 more chassis per hour with the No. 2 Process.

In addition to getting better, more uniform coverage with the asphalt-type coating, paint and labor costs were cut 70¢ per chassis. In eliminating the former set-up with 2 water wash booths and 12 automatic spray guns, they save nearly 1000 square feet of badly needed floor space.

Another on-the-job-example of the unmatched efficiency of the Ransburg No. 2 Process in which quality of the work is improved . . . AT LESS COST!

* *Studebaker also uses the Ransburg method to apply a heavier and more uniform primer surfacer on automobile bodies.*

Whatever your product—large or small—if your production justifies conveyorized painting, it's possible that one of the Ransburg electrostatic processes can do the job better, with substantial savings to you. We'll be glad to tell you about complete Ransburg services. WRITE TO DEPT. I.

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RANSBURG

drawn into the autoclave; it must be maintained at 70° F. or it becomes a solid. Plant air line pressure—about 90-lbs.—is then applied to the impregnating chamber, and the resin seals all metal pores.

Trays of coated parts on dolly in oven.

Following this impregnation of castings, the treated parts are given an alkali bath for two or three minutes, at about 190° F. Incidentally, various dyes, such as red or black, are added during anodization of aluminum parts, for instance, according to engineering specifications and customers' preferences. But, as previously mentioned, just about every kind of metal treatment might be underway during the work day at this plant.

After cleaning, or "pre-treating" as it is called at Bausch & Lomb, the pieces are racked on dollies or put in pans—depending upon sizes of the pieces—and are routed to an oven. All ovens are electrically heated here with the exception of one that uses super-heated steam which is generally preferred here for baking phenolic-base enamels.

Pinhole Preventative Treatment; Spray Gun Cleaner Handy

Optical instruments that will be finished in baked enamel are first heated to about 350° F. in an electric oven, for from half an hour to an hour (size of piece dictates) for a thorough drying before painting. This preheating treatment guarantees that no blistering or pin holes will develop in the coatings which are put on later. All instrument parts are similarly heated before being painted, many of them requiring only 300° F., depending upon the type of finish to be used —synthetic enamels, lacquers, etc.

Most of the instrument parts are small enough to be transferred to spray booths on dollies; and they generally receive individual spray painting because of the great diversification of finishes and materials. To keep non-painting time down to minimum—while the painter changes color or kind of paint —each booth is fronted by a rectangular metal container filled with thinner which the painter uses to clean his spray gun, etc., between different kinds of painting.

(Continued on page 32)

Partial View of the Home of Barker Lacquer Thinners

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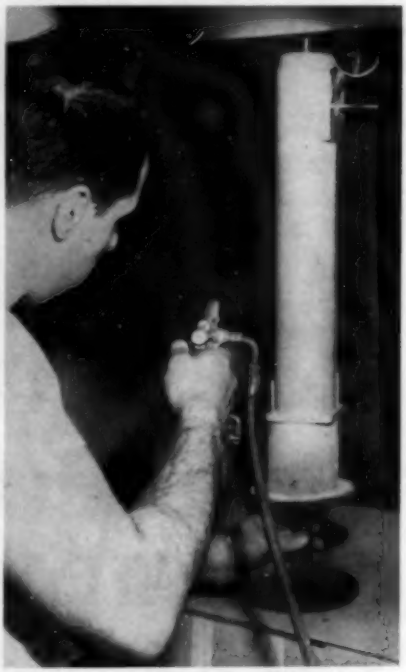

The part is mounted on small turntable.

As in finishing all the way through, final drying and/or baking depends upon the particular instrument part in process. And often an instrument part will be painted four times before it is ready for the customer, functionally and visually acceptable. Painting may include primer, surfacer, and two coats of "finish" paint. Air-drying and baking are used intermittently in Bausch & Lomb painting, again looking to the instrument and the specifications.

A solvent vapor drain area installed back of the dip tank or flow coater eliminates fat edges and tear drops.

New Steel Shipping Drum Coatings, Inside and . . .

FOR THE LAST half-century, the petroleum, chemical, paint, varnish and lacquer, food and other industries have depended upon steel containers for the safe, efficient, and economic transportation of products. . . .

The Steel Shipping Container Institute's 35 member companies represent in excess of 95% of the entire industry's production volume. These member companies manufacture more than 125,000,000 steel containers annually. The steel shipping container industry, normally using over 1,000,000 tons of steel per year, ranks second to the automotive industry in the use of sheet steel.

For years, the container industry supplied drums with zinc, lead, or tin interior coatings but in recent years, great strides have been made in the creation of new protective linings. The Steel Shipping Container Institute inaugurated a research program at Battelle Memorial Institute, Columbus, Ohio, seven years ago. This industry-supported research, backed by field experience, has produced organic coatings which permit virtually any "hard-to-package" product to be shipped in steel containers. The reliability of lined containers is evidenced by their rapid growth in use—from a negligible quantity four years ago to approximately 25% of all 55-gallon drums produced in 1954.

Industry research embraces such problems as metal surface preparation, de-

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greasing (both solvent and alkali), methods of application such as spray and roller coating, and the important factor of baking or curing such linings. The industry now specifies for the members that steel for lined packages must be prepared scale free and chemically clean, that the coatings must be carefully applied over such surfaces, and that precise time and oven temperature controls are essential.

Developments within the chemical and petroleum industries have made available many new synthetic resins which hold unlimited possibilities for lining formulas. These are greatly broadening the economic availability of lined steel shipping containers. Many of the new resins having the characteristics of good adhesion and flexibility, yet providing resistance to corrosive and chemical attack, make excellent linings for steel shipping containers.

The industry research program has shown that phenolics and vinyls, epons, epoxys, and blends with other resins of the hydrocarbon group are satisfactory and economical for a wide range of products.

An important corollary to the combined industry and armed services lining research program has been a corresponding improvement in drum exterior finishes, such as the widespread use of phosphate surface treatments which minimize spreading or creeping attacks of rust. Also, being somewhat porous, phosphate coatings provide an excellent bond for lithography paint, lacquer, and many other

2 BIG EVENTS
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JUNE 20, 21, 22, 23, 1955

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finishes now in increasing demand.

New container manufacturers are required by the Interstate Commerce Commission and Bureau of Explosives to emboss on each package their names, date of manufacture and the code for the exact Interstate Commerce Commission specification under which they are made.

To date, reconditioners are not required either to identify themselves or to indicate the number of times a container has been reconditioned. Hence, there is no way of knowing how many times a drum has been reconditioned, or who reconditioned it, and thus, who is responsible for claims for damage due to failure of the reconditioned drum.

A. B. Sherry New Sales Mgr. for Stanley Chemical Co.

Arthur B. Sherry has been appointed sales manager of the Stanley Chemical Co., East Berlin, Conn., succeeding Lucius S. Knouse, who was recently appointed sales manager for sliding door hardware, The Stanley Works.

Mr. Sherry started with the Stanley Chemical Co. in September, 1945, doing laboratory development work and technical service. He has been technical service manager since 1952 and in charge of promotional work on new products. This work included sales engineering and trips in the field with company salesmen.

Spring Furn. Mart May 2-6

The Official Spring Market and preview showing of new furniture in Chicago, at The American Furniture Mart, will be May 2 through May 6, 1955.

The Official Summer Market will be June 20 through June 30, 1955.

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Estab. 1895

Use Push Button Spray to Touch up Marred Finish

BY JOHN G. ELLIS
President of Sprayon Products, Inc.

TODAY, protective finishes sprayed from an aerosol dispenser comprise more than 15% of the total annual self-pressurized pack, not including insecticides, room deodorants and personal products such as shaving cream. The outlook is for an increasing demand for this method of applying protective and decorative coatings on touch-up jobs and small finishing operations.

This interest stems from many technical refinements in the packaging of all types of air-drying finishes including lacquers, vinyls and alkyd-base enamels. Lacquer is probably the most suitable material for spot touch-up of products finished in a baked enamel.

The full scope of the touch-up problem cannot be fully appreciated without a little reflection on the handling to which appliances, office equipment, farm machinery, etc., are subjected from the time they leave the manufacturer's plant until they reach the ultimate user.

In the past, jobbers and dealers had to replace products which were scratched or had an otherwise damaged finish. They could send out a touch-up man to repair the damage, send the product to a custom finishing shop for touch-up or refinishing, or return it to the factory. The only other alternative would be to reduce the price sufficiently to make the owner happy to have it fixed or let it go without fixing. [*To page 38*]

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Touch-up spraying, made simple and easy.

Time and transportation are expensive; responsibility arguments are costly and nearly always add up to customer dissatisfaction. Damaged finishes are a problem all along the line, for merchandise must be attractive and "clean" at the time of sale. In fact, the perfect finish, or lack of it on a new product, can mean the difference between a sale and no sale.

Lacquer Enamel Serves as an Excellent Touch-up Material

Lacquer is excellent for spot touch-up work on baked enamel finishes. It must be sprayed to give a satisfactory job. Lacquer dries in a short time and retains its sheen when rubbed with light abrasive compounds. The texture can be blended in with overspray leveler. Modern lacquers have excellent adhesion, good color retention qualities, and real resistance to weathering when properly formulated. For air-dry and low-bake enamels, air-drying touch-up enamels are satisfactory, and are less likely to "lift" or wrinkle the initial finish.

Self spraying finishes (from small aerosol dispensers) are being used more and more wherever there is touch-up work to do. They can be sprayed quickly and easily without any thinning of the paint or adjustment of the air pressure. When the aerosol dispenser is properly used, professional results can be obtained with only a modest amount of skill or experience.

Custom Formulations; Matching Production Colors

Every manufacturer has a specific touch-up lacquer or service paint designed to meet certain conditions and to match production colors. Manufacturers are generally reluctant to accept an unknown matching lacquer or enamel, therefore it is necessary to design aerosol formulations around many different finishes supplied by finish manufacturers.

Now it is possible for any manufacturer to obtain his factory or service specification finish in a spray can, with his laboratory's approval. With the proper methods and solvent blends determined by the loader, the propellent has no effect on the original material. Settling is slight, and this may be overcome through the use of an internal agitator.

Touch-up Kits for Fast Easy Repair Jobs

Today manufacturers of home appliances, farm machinery, office equipment and vending machines are making specification touch-up finishes and kits available to their jobbers, dealers and retail outlets.

Kits may be made up containing lacquer primer, top coat lacquer, a self-propelled thinner, and such surface preparation materials as abra-

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Pilot flow coating equipment — engineered to operate on a fractional-scale of your production rate — is now available to prove the advantage of flow coating your products. This equipment later becomes part of your full-scale flow coating system.

GEORGE KOCH SONS, INC.

EVANSVILLE, INDIANA

sive paper, pyroxylin putty, rubbing compound, polishing wax, etc.

These self pressurized lacquers and enamels, authenticated by being under the brand name and label of the equipment manufacturer, help to promote both dealer and customer satisfaction—solving a problem that has been very troublesome heretofore.

Editor's Note: The following suggestions on how to use self-spraying aerosol paints for touch-up jobs are excerpts from a copy of "Touch-up Guide" published by Tempo Products Company.

As in production finishing the surface to be touched up must be clean and dry. Adjoining surfaces, particularly chromium, may need to be masked to keep them free from any overspray.

Where bare metal is exposed, a self-spraying primer should be used first to provide adequate bond or adhesion for the finish coat. Remember, the life of every paint job depends largely upon the effectiveness of the primer.

If the primer does not build up the damaged area level with the surrounding surface, the scratch, nick or depression can be filled with a "pyroxylin" or "lacquer" putty filler. Allow the putty filler to dry thoroughly (one to two hours), then sand smooth with No. 400 wetordry sandpaper. At least one coat of primer should be applied over the putty filler.

Before using the aerosol spray it is important to shake the container so the internal metal agitator will thoroughly mix the contents. Remove the protective metal cover. Depress the valve completely with forefinger. Partial valve opening produces only droplets and faulty atomization.

Hold the tool no closer than 10 to 12 inches from the surface. If it is held too close, paint will quickly pile up and bubble because the propellent gas has not been allowed to escape. It is a good plan to practice briefly on another surface before spraying the real job.

Do not attempt to cover any area with one heavy coat. Sags and runs will result. Use short quick strokes, allowing the paint to get tacky between successive light coats.

If you have trouble with poor atomization it may be caused by the tool being cold. Keep it at reasonable room temperature.

The touched-up area should be oversprayed with clear "leveler" to blend in the dry overspray ring around the touched-up area. Apply sparingly after the paint has had time to set up. If properly applied, there may be little if any need for rubbing. Allow to dry for ½ hour.

It is usually desirable to use rubbing compound to remove "paint dust" from areas surrounding the touch-up repair. Use it also to finish off the actual touch-up, if necessary. On appliances, too much rubbing may remove the porcelain like effect of the paint touch up job, so it is important to be careful and not "over do" the job. Use polishing wax to produce a uniform luster.

Complete instructions about how to care for and use the aerosol "push-button spray" — including how to cope with "silicone problems" are available from the manufacturer of these self-spraying touch-up tools. [END]

3-ZONE CONVEYORIZED FINISHING OVEN

Important operating economies are among the many distinctive features of this 3-zone automatic conveyor oven. Exhaust gases from the baking zone are utilized efficiently for work pre-heat. High velocity outside air, used in the cooling zone and there raised in temperature, is employed as pre-heated make-up air for the air heater.

Like all IOI *Equipment this installation is characterized by:*

- **Sound Engineering**
- **Expert Workmanship**
- **Operating Economy**
- **Maximum Investment Return**

This same system can be employed in many industrial oven applications.

If you have a problem in this field it will pay you to consult **IOI.**

- PAINT BAKING OVENS, BATCH AND CONVEYOR
- WELDING ROD DRYERS
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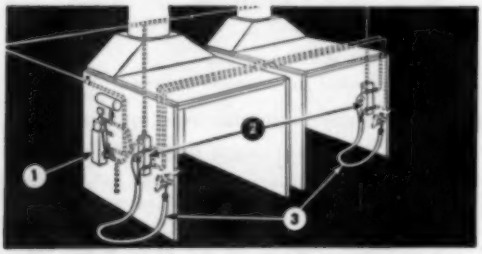
Plumbers Woodwork increases

The Plumbers Woodwork Co. manufactures wood and plastic Badger Brand *toilet seats.*

This one DeVilbiss master heater serves all four spray stations at Plumbers. To add another station, a low-cost heat exchanger, gun, and hose are all that are needed!



DeVilbiss hot-spray system is foolproof; adapts to multiple gun hookups. Heated water from master water heater (1) heats paint in heat exchangers (2); heat-jacketed hose assemblies (3) keep paint hot right up to guns, assuring uniform viscosity at all times at each gun.

SPRAY GUNS • AIR COMPRESSORS HOSE AND CONNECTIONS

paint mileage 94% with new DeVilbiss paint heater

"Since installing a DeVilbiss hot-spray system, production costs have been cut remarkably, and we're getting a better paint job," says Fred Mueller, president of Plumbers Woodwork Co., Algoma, Wisc. "With one coat, we get complete coverage – faster drying, and a tougher, glossier finish.

"Paint stays hot right up to the guns, and we add no thinner. Overspray has dropped to a fraction of that of our former cold-spray method. Now, we apply pure paint to our wooden seats – without runs or discoloration.

"What's more, the DeVilbiss paint heater lets us reduce air pressure by two thirds – providing big savings in power, equipment replacement, and maintenance. Even more impressive, however, are spray-material savings. For now, one gallon of paint covers 97 pieces, compared to 50 pieces with cold spray – an increase of 94% in paint mileage!"

Why not call a DeVilbiss representative, today, to survey *your* finishing operations–show you the way to *better* finishing at *lower* cost? The standard components of the DeVilbiss paint-heating system can be combined in countless ways to meet your special needs.

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Toledo, Ohio
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TRANSFORMERS • SPRAY BOOTHS • PAINT TANKS • ACCESSORIES

ABRASIVES

their use in surface preparation

BY P. C. BARDIN

ABRASIVES are essential in the preparation of practically all surfaces to be finished. This applies not only to metals but to wood, composition board, plastics, ceramics—in fact, to any solid material that is to receive a finish.

Other uses for abrasives in connection with metal work include tapering surfaces for joints, tapering aircraft skins, smoothing raw cut edges of sheets and castings, cutting down and smoothing welded, soldered or brazed joints, etc.

Where their use leads up to any kind of surface finishing, abrasives may be divided into two general classifications—grinding or polishing wheels and abrasive coated paper or cloth.

Grinding wheels are produced in a variety of shapes, sizes and types of abrasive. Types of abrasive include: 1) aluminum oxide, used for grinding or cutting alloy steel, annealed malleable iron and tough bronze; 2) silicon carbide, used for grinding and cutting cast iron, brass, bronze, aluminum, copper and non-metallic materials. Then there are special forms of aluminum oxide for grinding hardened tool steel; and special forms of silicon carbide for grinding cemented carbide tipped tools. Finally, diamond bort for grinding carbide, glass and quartz.

Grain, Bond and Structure of Grinding Wheels

Three main factors to be considered in selecting wheels are the

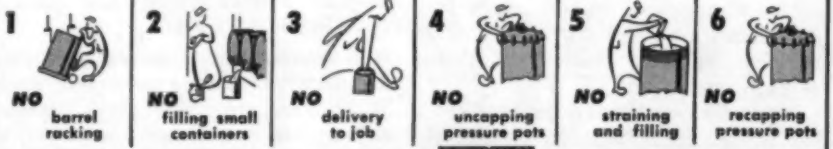
Spray heads supplied direct from mixing room

with Alemite Versatal pumps!

save time—save money!

One Versatal Pump can supply up to six spray heads, deliver up to 27 gallons per minute even through long lines. You eliminate delays and down-time—mismatching—fire hazards. Piston is self-oiling, and pump is separate from motor.

Save 6 out of 12 steps with Versatal Pumps!



FREE idea book. How Versatal methods can help solve *your* production problems. Write Alemite, Dept. L-45, 1830 Diversey Parkway, Chicago 14, Illinois

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ALEMITE Versatal SPRAY-PUMP EQUIPMENT

grain, bond and structure. The grain sizes in common use are as follows:

Coarse	Medium	Fine
10	30	120
12	36	150
14	46	180
16	54	220
20	60	240
24	70	280
	80	320
	90	400
	100	500
		600

The bond, of which there are five types, holds the abrasive grains in place to form the wheel. Types of bond include the following:

VITRIFIED. It is high in porosity; gives fast stock removal; is not affected by water, acids, oils or ordinary temperature conditions; is used on 75% of general grinding wheels.

SILICATE. Readily releases abrasive grains; generates less heat.

SHELLAC. Produces a fine finish; cool cutting performance on tool steel and thin sections.

RESINOID. Used in a wide variety of wheels; cuts cool; removes stock rapidly; may be run at high speeds.

RUBBER. For a high finish; also for extra thin wheels used for cutting off.

To this list should be added the cotton fiber wheel, in soft grade for deburring, and in hard grades as a replacement for sander discs on certain operations.

Recently developed depressed center wheels in reinforced fibrous or resin bonds give high versatility in cutting metal, and for smoothing edges and welds.

The structure of a wheel can be either dense or open. Its function is to provide chip clearance to prevent the chips from clogging or loading the face of the wheel.

The grade of a wheel indicates the strength of the bond; it has no relation to the hardness of the abrasive.

Selection and Speed; Safety and Efficiency

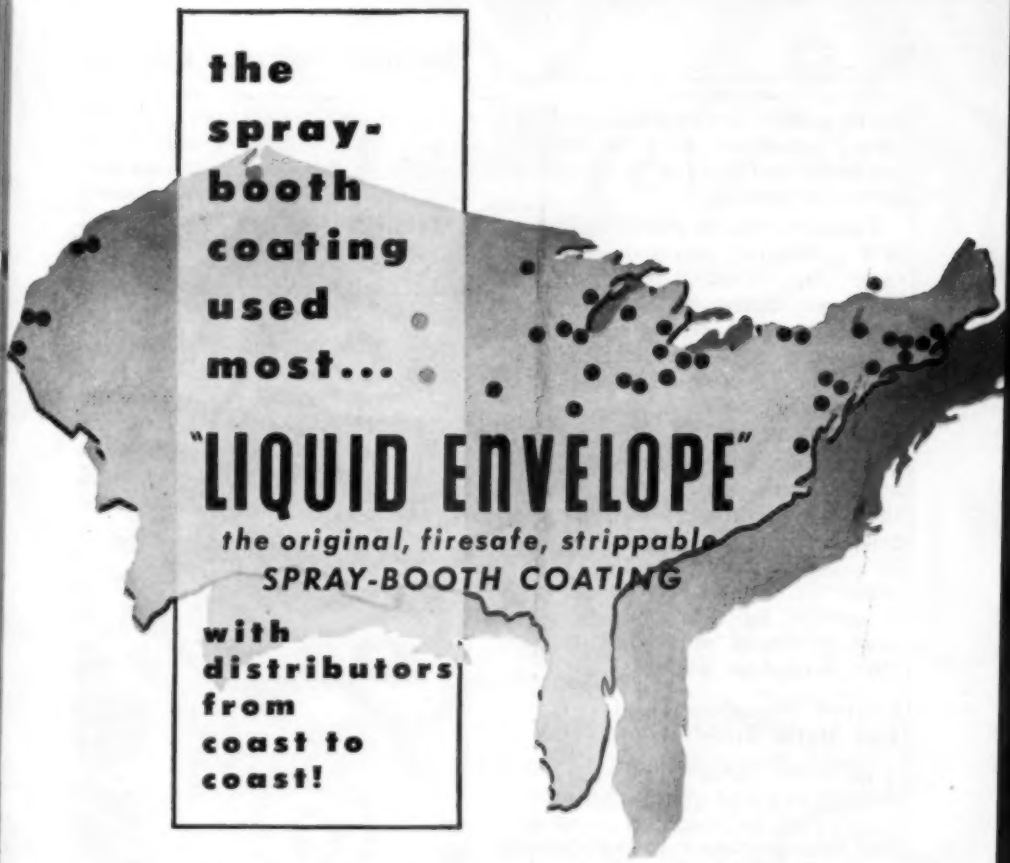
It is important to select the right type and size of abrasive wheel for specific jobs. In general, the best efficiency is obtained by operating the wheel at close to its maximum safety speed. This speed is indicated on each wheel and it should never be exceeded.

The foregoing refers chiefly to grinding wheels.

Fused aluminum oxide is used on 75% or more of the polishing wheels. Other polishing wheels are made of silicon carbide, to produce a high finish on iron castings and on surfaces to be plated. The remainder are made up of natural emery.

Polishing wheels range in diameter from ½-in. to 24-in. and in width from ¼-in. to 6-in. Aluminum oxide is tougher, cuts faster, lasts longer, and is more uniform than emery. On the other hand emery, for any given grit size, will produce a finer finish than aluminum oxide.

Wheels used for polishing metal are made of various materials, such as canvas, muslin, leather, sheepskin and leather covered wood. Hide glue and cold cement are two adhesives commonly used to hold the abrasive particles on the face of the wheel. Cold cement is generally used for preliminary polishing, and



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the hide glue for fine polishing. Polishing wheels are used for preparing metal surfaces for decorative or protective coatings.

Polishing wheels should be stored in a moderately warm dry storage rack. An extremely cold temperature can cause brittleness in a grinding wheel. However, it will not cause permanent damage. A very cold wheel should be allowed to warm up to room temperature before being used.

Grinding wheels are breakable and, in some cases, even fragile, therefore it is important to exercise care in their handling and storage to avoid any damage that might cause the wheel to fly apart while in service. Suitable racks, bins and drawers should be provided for the storage of these wheels.

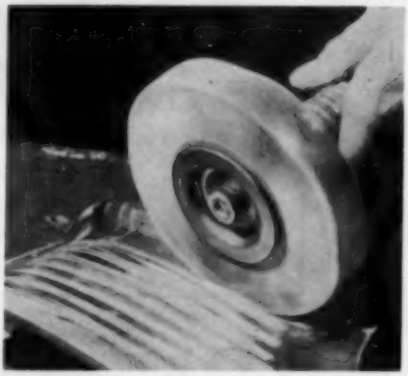
Coated Abrasives Used For Metal Finishing

Abrasive grains adhered uniformily to paper or cloth (commonly referred to as coated abrasives) play an important role in preparing metal surfaces for finishing. In fact they can be and often are used instead of wheels for cutting and smoothing metal. Coated abrasive belts and discs are extensively used in the preliminary prepartion of metal surfaces which are to receive a coating of paint, lacquer, varnish or enamel, or a metallic plating. These abrasives are also used extensively for sanding prime coats and intermediate coats—in both dry and wet sanding operations.

Each abrasive has definite characteristics in both its appearance and purpose. Each one is adapted to specific classes of work. Paper, cloth and special backings are available. I shall list here only those that are suitable for use on metals. In a future article I will discuss abrasives intended for use on wood and other non-metallic materials.

Aluminum Oxide; Silicon Carbide; Emery

Aluminum oxide, a manufactured abrasive, is brown in color. It is tough and durable which contributes to the long life of its cutting edges and points. This abrasive is well adapted for use on alloy steel, high carbon steel and tough bronzes.



A flexible abrasive wheel for reaching irregular and recessed areas. The wheel is many discs of coated abrasive cloth.

Silicon carbide, also a manufactured abrasive, bluish black in appearance, is generally used for sanding cast iron, aluminum, brass, copper and for glass and plastics.

Emery, a natural abrasive is black, and is generally used for polishing metals.

Paper backings for abrasives are available in several different weights, thicknesses and widths. The weights range from weight A

Du Mont cabinet mfrd. by Falstrom Company being installed in Television Broadcasting Studio.

Du Mont specifies Spraylat strippable coating for protection of painted surfaces

In order to protect painted surfaces during installations the Allen B. Du Mont Laboratories has requested Falstrom Company, their metal cabinet manufacturer to use SPRAYLAT SC-1071B (Sprayable Coating), on their television transmitter cabinets for protection of the painted surface during assembly and installation. This tough, elastic coating is easily sprayed on and protects against scratches, dirt, smudges and other damage during handling, shipping and installation. Once installed, Spraylat SC-1071B is easily peeled off, revealing the original "Factory-Fresh" appearance.

Expensive refinishing and touch-up are no longer necessary when you use this new and economical coating. Write today for samples and complete information . . . . Just ask for Bulletin M-3.

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of 40-lbs. to weight E of 130-lbs. per ream. Single-ply papers are generally used for hand sanding, and multiple ply paper backing are for power-driven sanding machines.

Two weights of cloth backing are available—jeans and drills. Jeans are used for backing for aluminum oxide abrasive in grit size No. 80 and finer for use on metal surfaces.

Drill, a heavier and stronger cloth, is used for practically all power driven abrasive belts and discs.

There is also a combination of strong paper, light weight cloth and glue. This combinaiton backing is used for the most severe sanding operations.

For use exclusively on portable disc sanders is a combination drill and fiber. It will stand up under high speeds and exceptional strains.

Removing weld spots from steel parts, using an abrasive belt of correct grit and speed.

For extremely tough disc sanding operations a vulcanized fiber backing is also available.

Adhesives Hold Particles of Abrasive to Backing Material

The adhesives used for holding abrasive particles on the backing material include resin for use on cloth for wet belt sanding; resin and varnish used on wet or dry abrasive papers; resin and modified filler used on discs; and glue and modified filler which give a dense, heat resistant bond used principally on dry, power-driven sanding operations.

A comparison of grain sizes, as indicated by numbers (both systems of numbering) is shown in the accompanying table:

Silicon Carbide	Aluminum Oxide	Emery
600 or 12/0	xxx	x
500 11/0	500 or 11/0	x
400 10/0	400 10/0	x
360 xx	xxx xxx	x
320 9/0	320 9/0	x
280 8/0	280 8/0	x
240 7/0	240 7/0	x
220 6/0	220 6/0	x
180 5/0	180 5/0	3/0
150 4/0	150 4/0	2/0
120 3/0	120 3/0	1/0
100 2/0	100 2/0	x
xx	xx	1/2
80 1/0	80 1/0	1
60 1/2	60 1/2	1 1/2
50 1	50 1	2
40 1 1/2	40 1 1/2	2 1/2
36 2	36 2	3
30 2 1/2	30 2 1/2	x
24 3	24 3	x
20 3 1/2	20 3 1/2	x
16 4	16 4	x
12 4 1/2	xx	x

The corresponding mesh numbers and grit symbols of different abrasives; fine at the top and coarse at the bottom.

For the preliminary preparation of metal surfaces to receive organic coatings, portable disc and belt sanders are now available. Sanding

Half-second butyrate –the key to durable outdoor lacquers for aluminum

For economical aluminum lacquers of great outdoor durability we can unreservedly recommend half-second butyrate.

The results of our own development work plus reports coming to us from actual field tests indicate that half-second butyrate is providing outstanding protection to aircraft, truck trailers, structural sections and other aluminum surfaces equally difficult to protect. One-year performance tests have just been completed on a commercially operated airliner, for instance, with completely satisfactory results. In another case, performance tests on an over-the-road truck trailer have just passed the eight-month mark with the half-second butyrate lacquer still in excellent condition.

WHAT ABOUT BETTER PROTECTION FOR YOUR PRODUCT?

Eastman is anxious to cooperate with manufacturers and users of outdoor aluminum products in evaluating half-second butyrate lacquers. If you are seeking better protection for aluminum surfaces, let us hear the details of your problem. We will be glad to supply lacquer samples specially formulated to your needs and to assist in their evaluation. There is no charge. Write to us at Kingsport, Tennessee, or call your nearest Eastman sales office.

Aluminum lacquers made with half-second butyrate resist

Peeling	Steam Cleaning
Whitening	Salt Spray
Yellowing	Mortar Alkalies
Hydraulic Fluids	Rapid Temperature Changes
Gasoline and Oil	Abrasion

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discs, 7-in. and 9⅛-in. in diameter, of resin bonded aluminum oxide, in grits ranging from 36 to 80, can be obtained. Portable belt sanders take cloth backed aluminum oxide belts. For smoothing down welds and brazed joints, No. 36 grit is suitable; for deburring, No. 50 to 180; for surface blending, No. 80 to 180; and for finish sanding No. 120 to 320.

For dry hand sanding primer coats, a silicon carbide, resin-and-varnish bonded in No. 220-A to 320-A is recommended; and for sanding of color coats a No. 360-A paper is suggested.

Portable air-driven oscillating sanders are generally used for wet sanding of prime coats and intermediate coats of paint and lacquer, starting with a silicon carbide, resin-and-varnish bonded paper in No. 220-A grit, and finishing up with a No. 320-A grit. This is a waterproof abrasive commonly referred to as a wet-or-dry paper.

Storing Coated Abrasives; Temperature; Humidity

A few common sense rules should be observed when storing coated abrasives. Wide rolls should be placed in bins on their curved sides, not on roll edges. Narrow rolls may be end stacked. Belts should be kept in their original boxes or hung loosely on pegs. Discs should be stored in their original packages, and when opened, a weight should be placed on top to hold them flat. Sheet stock also should be retained in its original packages. It is best to have the store room reasonably warm (about 70° F.) and dry, about 50% relative humidity.

Author's Note: Acknowledgment is made to The Carborundum Co. for information and cooperation in the preparation of this article. A future article will cover the use of abrasives in connection with woodworking.

"There will be no showing of the safety film today as scheduled. Ramsey fell down the steps with the sound projector!"

Walsh Metal Products Appoints Barton Supervisor of Eng.

Graham Barton has been appointed Supervisor of Engineering of Walsh Metal Products a division of the Michigan Oven Co.

All engineering guidance for Walsh, designers and builders of steel fabrications, will be assumed by Barton who has worked in drafting, purchasing, field supervision and engineering for Michigan Oven.

Barton is a graduate of the Detroit Institute of Technology.

Modern water-wash spray booths are used in applying Sherwin-Williams Fan Enamel to Reed fan cases.

"LIVING ROOM" BEAUTY for window fans with modern Sherwin-Williams baked finish

Many homes, for many years, have found cooling comfort with window fans produced by Reed Unit-Fans, Inc., New Orleans. Important among the sales features which have won Reed Fans a place of prominence in homes, large and small, is their luxurious, Sherwin-Williams baked-enamel finish.

Reed Unit-Fans take pride in their finish . . . feature it with identifying tags supplied by Sherwin-Williams. It's another example of the double-barreled sales help Sherwin-Williams offers . . . with finishes to fit the application, backed by the sales support of the best-known name in finishes.

Why not find out what this help can offer you in meeting production or selling problems? Call, wire or write. The Sherwin-Williams Co., General Industrial Division, Cleveland 1, Ohio.

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2 **LONGER LASTING.** Because of the special resin bond with greater holding power, plus a rugged all-fibre backing, Resin Sander Discs resist both edge-wear and the heat of flat contact grinding. You get more work from each disc—which soon adds up to impressive savings.

3 **NEW DOUBLE-PROTECTION PACKAGE.** Resin Sander Discs are doubly protected from moisture and handling. Packed first in moisture-resistant bags, then in sturdy cartons, they reach you factory-fresh—stay that way till you are ready to use them.

GET THESE ADVANTAGES ...and many more, by using Resin Sander Discs on *your* next job.

CARBORUNDUM
REGISTERED TRADE MARK

...continually putting more **SENSE** *in your abrasive* **DOLLAR**

82-52

Finishing Wood Turnings in a TUMBLING BARREL

BY EVAN C. HINKLEY

The author has had 25 years of practical experience in the state of Maine, finishing large quantities of wood turnings and a considerable variety of small wood items by tumbling, dipping and spraying.

FINISHING wood turnings by tumbling is growing in popularity. It is by no means a cheap finish insofar as quality goes, although it is less expensive than dipping or spraying. A finish put on by tumbling is fully as durable as one applied in any other way. If the tumble finishing process is supervised by a man of experience the final result will compare favorably with some dipped jobs—and for certain items, tumble finishing is superior because the tenons of handles and the holes in other items are more free of any undesirable build-up of excess paint material.

Shapes and Sizes Make Little Difference in End Result

The tumbling barrel can be any one of a variety of types. Some are made of an old shellac barrel or other wooden barrel mounted to rotate on a horizontal axis. Others are made up in sizes to suit the demands of the particular finishing room. Most of the made-up tumbling barrels are either six or eight sided, and vary in size from 18-in. to 48-in. in diameter and from 2-ft. to 8-ft. in length. The other type is the open-end tilting barrel, usually made of steel, with the open end slightly larger or smaller than the other end. Some of these open-end tilting barrels are made of wood, and for clear finishes it may be better so as to overcome any tendency of the items to be colored from the metal if they roll too long.

I have seen 5-gallon enamel pails secured to a revolving disc, to be used where a large assortment of colors, for small quantities of the items, were ordered. The pails are removable so the same disc-like base can be used and a separate pail can be put on for each color. The style of barrel used doesn't seem to make so much difference in the end result.

But Finishing Material Used Does Make a Difference

The finishing material has more to do with the results you get than anything else. In reference to the purchase of finishing material it

A few of the various shaped turnings and other wood items the author has coated in natural, stained and color finishes, by the tumbling barrel method. Using the correct technique and materials, one can produce a full-color finish that is smooth, lustrous and attractive.

should be remembered here that it is easy to "squeeze a dime and squander a dollar". In other words, it is more economical to use good material especially developed for tumbling and furnished by a reliable manufacturer.

The materials I am accustomed to using, in addition to filler and stains, are principally enamels and varnishes.

The tilting open-end tumbling barrel (sometimes larger, sometimes smaller at the open end) is usually made of steel, although it can be made of or lined with other material. A drive shaft to which it is attached is at the lower end. The barrel can be tilted up for loading and rotating, and down for unloading. While the open end can be fitted with a cover, it generally remains open during rotation so the operator can pour or spray paint or finishing material over the articles being tumbled and he can inspect the work as it progresses. Loading, unloading and cleaning the interior are much easier with this type of tumbling barrel.

The tumbling of lacquer is just in its infancy and so far as I know there is no one around these parts (northern Maine) doing it. Some of the traveling salesmen from different lacquer manufacturing concerns say it is being done, but I have yet to see it done on a satisfactory production basis.

It can be done for a one-coat job very well . . . . Of course, manufacturers are formulating new lacquers especially for tumbling and they will probably come up with one that will work.

The chief problem is that lacquer solvent or thinner is so strong that if you put a second coat on over the first one, the first coat absorbs some of the solvent of the second coat and becomes soft, and in the tumbling process the surfaces being coated will become rough, something like the orange peel in a poor spray job.

How to Load Barrel; What Speed for Tumbling

For me it seems best to use the open-end tilting barrel which can be more easily loaded and unloaded, and where the operator can watch the progress of the work. I will first take up this kind of barrel.

The barrel should be loaded according to its size and the shape of the items to be finished. For most work, the barrel should be loaded so that about one-third of its bottom will show and the work will tumble without spilling out at the front. The elevation of the barrel will be such as to let it be loaded as above, and may vary somewhat with the different items to be finished. [*To page 60*]

Mac's

THERMO-LAC FINISHES

The most modern air dry, low or high bake catalyzed synthetic wood finishes produced in recent years.

Available in a clear or satin finish, also in a full range of solid colors. Is non-yellowing.

The beauty of these finishes is not affected by boiling water, liquor, alcohol, or nail polish. Do not mar or scratch readily, are so tough that a hammer blow will only dent the finished wood surface. Will not cold check, print, soften or pad mark.

A burning cigarette does not blister or mark its surface after two or three minutes.

Mac's Thermo-Lac finishes have been used for many months in finishing production with complete satisfaction. They are high in solids, can be applied by spraying in the usual way, dry dust-free quickly and will rub dull or polish more readily than lacquer finishes.

Why not order a 5-gal. can at the drum price for testing? When ordering advise whether you wish the clear, the satin finish or describe the color desired.

"Eighty Years of Service"

The Lawrence-McFadden Co.

Headquarters for Fine Finishes Since 1875

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If the items have large flat surfaces, the load will need to be lighter and the barrel should be dropped (tilted down) somewhat to prevent the flat surfaces from adhering to the flat bottom of the barrel and consequently not being well coated.

The speed of the barrel will vary with the size to be used; this applies to either type of barrel. The barrel should rotate fast enough to coat the work quickly, yet it must not be so fast that centrifugal force will carry the work to the outside of the barrel and thereby interfere with the ideal tumbling action. Some barrels are run 25 to 30-r.p.m.

First, Clear Tumbling Filler; Then Follow With . . . .

The finish desired—whether it be clear, stained or colored—will somewhat vary the procedure. The use of a filler with the first coat of enamel is advisable, as about half of the finishing material is used on this preliminary coat. A good neutral filler* usually costs only about half as much as the enamal. For a clear finish, one or two coats of filler may be used first; then follow with varnish for gloss and build.

For stained work it may be best to stain the work first, but if the stain doesn't need to be so deep in color it may be put with the filler for the first coat; then follow with a coat of filler and one or two coats of varnish to bring it up to the finish desired.

*I have in mind a varnish-type pigmented filler, using china clay or some similar pigment that is neutral in color. Manufacturers who make it call it "Clear Tumbling Filler". This material should not be too heavily pigmented, as on items that are mostly end grain, excess pigment will cake up on the end grain when the wood soaks up the vehicle.

It is desirable to get a good stain powder of the color required, one that is soluble in VM&P naphtha or in the thinner you are using. Dissolve the required amount of stain thoroughly and then use this to thin the first coat of filler, using just

The power-drive disc has guides and holders by which smaller containers of different sizes and shapes (such as 5-gallon pails, for example) can be attached and then rotated in either tilted or in horizontal position. It is useful for a variety of small runs and for experimental work. Photograph supplied by Rampe Mfg. Co.

enough to get the depth of stain desired. This applies to stain work, as just mentioned, and to colored work.

One rule that seems to work well is that if the first coat takes four quarts, the second coat will take two quarts, the third one quart, and the fourth one pint.

The exact amount to thin your finishing material (in other words, the correct viscosity of finishing material) will vary considerably with the shape of the items to be

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Labor-Saving...
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ELECTROSTATIC SPRAYING

These are some of the advantages of this method of painting. The application of Electrostatic Spraying depends on the size and shape of the products to be finished.

Maximum benefits are realized only when your supplier of enamels and lacquers is thoroughly experienced in formulating materials for this highly specialized method of spray painting. CLINTON offers long experience and know-how.

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A small portable tumbler-mixer the rotating unit of which can be tilted through 90° (vertical to horizontal). Its tilting face plate has a convenient means for holding a container (one of a variety of shapes). By changing readied containers quickly, the machine can be kept in operation almost continuously. It is especially useful for a variety of small batch runs, operating occasionally or continuously. Photograph supplied through courtesy of Rampe Mfg. Co.

finished. If it is a good (regularly) shaped handle or ball, the finishing material may be used without thinning, but with irregular or intricately shaped pieces it may, in some extreme cases, need to be thinned as much as two parts thinner to one part of material.

First Coat Must Produce Complete Color Coverage

For the first coat be sure to get the items completely colored or stained, as this is the most important coat of all. Place the items in the tumbling barrel and pour enough of the first coat material over the front edge of the moving turnings to completely cover them. (I say front edge, as the material will work backward rather than forward.) If the coating material does not work itself rapidly into all contours of the items, dash a quantity of thinner onto them to drive it into the contours; then continue the barrel's rotation until the articles being tumbled are smooth and dry.

With items that are very irregular, the best procedure is to thin the material about half and half with thinner. Start the loaded barrel and, from a 5-gallon pail, pour finishing material along the front edge, as before, and continue rotation of the barrel until the items being tumbled are completely covered. Stop the barrel and tilt it down to drain off what material will flow back into the pail. When the material stops running in a stream from the barrel, tilt the barrel up again and run it until all items are dry and smooth. Take the items out of the tumbler and place them on wire mesh trays to air dry or bake, according to your facilities.

Place in Wire Mesh Trays for Air Drying or Oven Drying

Most tumbling materials will air dry overnight; or they can be baked at 180° to 200° F. in 2 to 2½ hours, but this information should come from the supplier of your finishing materials.

The best size wire mesh tray seems to be 18x30-in. or 18x36-in., and 5-in. or 6-in. deep, with size of mesh suited to the size of items being finished; in other words, small enough so the smaller items will not go through.

Be sure the trays for turnings to be finished in light colors and

is your finishing department giving you a headache?

- Are rejects throwing your costs out of line?
- Are time and material costs eating up your profits?
- Are you getting consistent finishing room quality control?
- Are you satisfied with the appearance of your finished product?

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We'll be glad to show you facts and figures on how other manufacturers in your field are producing better products at lower cost. Spee-Flo Hot Spray Heaters pay for themselves in the first few weeks of operation . . . they are long lived and trouble free.

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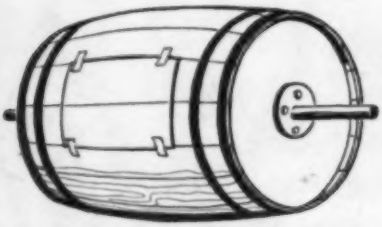
varnish are clean and not coated with any dark colors, as the light ones mark easily, especially when they are warm and on the last coat. It is best to have special trays for them or, as some do, have some clean window screen cut to fit the bottoms of the trays and then use these false bottoms when finishing articles in the lighter colors and clear coatings.

When the first coat is baked the turnings are ready for their second coat. Place them in the barrel, start and run them a minute of two to smooth down the fine fibers that have raised during drying. Now pour on the desired amount of finishing material to give a good coat (remember the rule I have given previously) and run until nearly dry. If you run them too dry they will be streaked or bunchy, and if taken out too wet they will show large contact marks. This is one place where it is easier to add than to take away, so be careful and avoid getting too much finishing material on at a time.



In an emergency a tumbling barrel can be made of a tight hardwood barrel or a steel shipping drum. The drum is securely mounted on a horizontal shaft extending clear through—or short shafts can be centered and securely bolted to the outsides of the drum heads provided the latter are perfectly aligned and are flat and rigid. One end of the shaft has a drive pulley. An opening of reasonable size for loading and unloading must be cut in the side of the drum and a door or gasket must fit tightly over it.

Inasmuch as the interior is a bit difficult to inspect and clean, this type of drum should be used for only one color or one type of finishing material.

On the next one or two coats, the load will need to be taken out more wet to insure a good gloss, but not wet enough to leave too many contact marks.

Correct Technique for Coating Flat Surfaces

On items that have flat surfaces a good way to do, after the first coat has been put on, is to use quite thin material and pour a thin stream onto the edge of the barrel ahead of the items as they are tumbling and let them pick it up off the inside surface of the barrel. This technique reduces the chances of getting too much material in one place and sticking the items together, which is very easy to do.

To Produce Gloss; To Remove Excess Coating Material

On the finish coat, all of the coating materials should be applied at one time to insure better gloss, but on other coats it may be advisable to make two or more applications and thus reduce the chance of putting too much material on the items for the desired result. If for some reason the items do get an overdose of finishing material you can (provided the coating has not dried on) —throw on a quart or two of thinner to dissolve the excess material while the articles are tumbling; then throw in some new items or clean scrap items to take up the excess material. [*To page 68*]

You too CAN CUT FINISHING COSTS WITH

PERFEX SATIN FINISH

CHECK YOUR FIGURES WITH THIS CASE HISTORY:

	"X" Company	Your Figures
Cost of top coat lacquer (two coats) per year	$10,000	$_____
Less 50% (one coat Perfex equals 2 coats of lacquer)	$ 5,000	$_____
	$ 5,000	$_____
Less 10% (saved since Perfex costs less than lacquer)	$ 500	$_____
Cost of PERFEX	$ 4,500	$_____
Less 20% (labor costs saved by eliminating second coat)	$ 1,900	$_____
ACTUAL cost for PERFEX Finish	$ 3,600	$_____
SAVINGS PER YEAR WITH PERFEX	$ 6,400	$_____

HERE ARE A FEW MORE OF THE PLUSES YOU RECEIVE FROM PERFECTION'S EXCLUSIVE PROCESS OF SYNTHETIC FLATTENING:

- A Clear, Rubbed Effect Finish
- A Waxed Feel
- A Liquor Proof Finish
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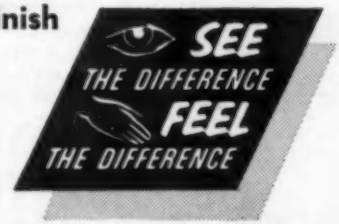

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Perfection PAINT & COLOR COMPANY

INDIANAPOLIS 2, INDIANA

Finishing

Flexible finish does a double take:

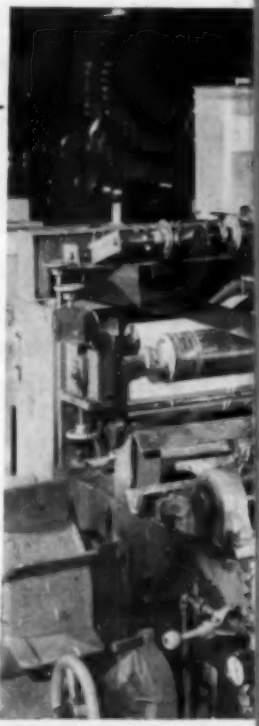
DULUX® Roller-Coating Enamel

Manufacturing metal awnings used to require painting both sides of the aluminum strips separately after they were shaped. A strip was folded at the sides; then the top was painted one color, the bottom another. A costly time-consuming job.

When a leading manufacturer wanted to speed up production and lower costs, he turned to Du Pont DULUX Enamel and found that the strips could be fed into a machine that paints both surfaces—in different colors—simultaneously. What's more, the strips can be bent to any shape *after painting* without damaging the finish!

Du Pont DULUX Enamel is carefully formulated to insure smooth, uninterrupted application . . . has the necessary flexibility to withstand severe bending without cracking. It stands up to weather extremes and sudden temperature changes for years and years.

Already more than 12,000 Du Pont finish formulas are serving industry. Perhaps a Du Pont finish can help you improve or develop a product—cut your production costs. For complete information contact Du Pont sales technician in your area, or write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington 98, Delaware.



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INDUSTRIAL FINISHES

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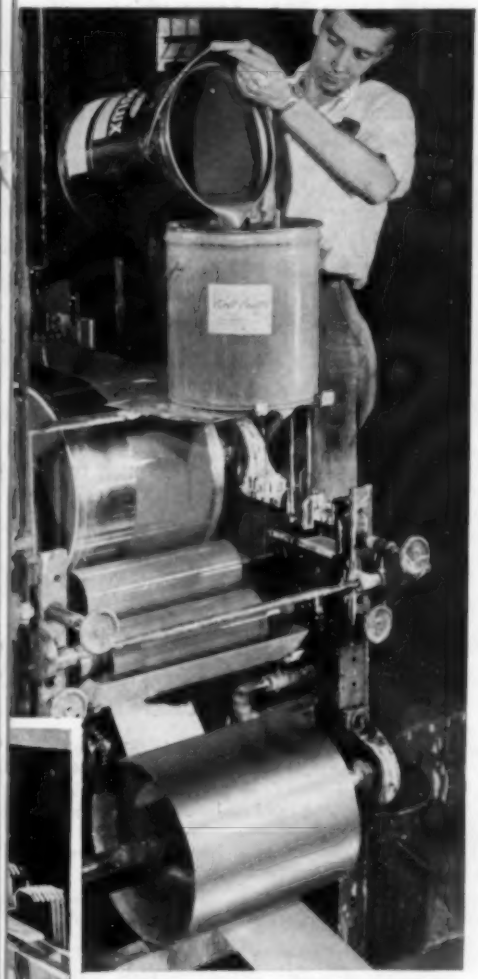


SUPERIOR APPLICATION characteristics of Du Pont DULUX Enamel make it possible to feed a strip of aluminum into this machine (above) that paints both sides simultaneously—in different colors!

HERE DU PONT DULUX proves its flexibility as painted aluminum strips are shaped (left) prior to assembly into completed awning.

Free Quart Sample

Du Pont Strippable Spray Booth Coating

Here's the way to save time and labor in putting a spray booth back into operation. Du Pont Strippable Sprayable Spray Booth Coating goes on fast and easy with regular spray equipment . . . gives a dry-film thickness of 2-3 mils (3 times the thickness of a normal spray application). When cleaning the booth, the strippable coating can be torn off in one piece in a matter of minutes. One gallon covers 100-sq.-ft. area with a dry film of 3 mils.

MAIL COUPON FOR FREE SAMPLE
E. I. du Pont de Nemours & Co. (Inc.)
Finishes Division, Rm. 7010, Dept. IF-54
Wilmington 98, Delaware

Gentlemen: Please send me, without obligation, a quart sample of Du Pont Strippable, Sprayable Spray Booth Coating.

*Name*_____

*Position*_____

*Address*_____

*City*_____ *State*_____

If an excess amount of coating material has dried on the items being tumbled it may be necessary to pour on two or three gallons of lacquer thinner to cut off the material; then drain the tumbling barrel and rinse the items with a little more thinner. Run the barrel until the items are dry; then dump them into wire mesh trays to dry thoroughly. If this is done, remember that the items are already filled, so be careful and avoid putting in too much finishing material the next time.

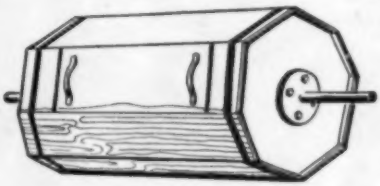
Size of Load to Put in a Horizontal Barrel

With the horizontal type of tumbling barrel, the barrel should be loaded about ⅓ full of items to be tumbled, and the coating material should be spread well over the top of the load. The barrel's door is closed and rotation is started. The tumbling time will be longer with the horizontal type of barrel, but this may be advantageous as the load may be larger. The amount of finishing material will be the same for the same number of items as with the tilting, open-end barrel, and can be handled the same. On some very irregular items it may be advisable to basket-dip them in thin material, with a wire mesh basket; then dump them into the tumbling barrel to tumble dry so as to cover all surfaces when the first coat is applied.

Smooth Items Before Coating; Remove Dust From Surface

Be sure the items to be finished are clean and smooth. Turnings that are to be finished natural should never have any pumice on them. A small amount of pumice dust is helpful as a filler with the first coat of finish in black or colors, but never with varnish or shellac, as it will cause a muddy or cloudy looking finish.

To smooth the items, put them in a horizontal barrel; fill it nearly full and tumble for some two or three hours or more. A large diameter barrel is usually the best for this, as the weight of the items on themselves, as they roll over and over, helps as much or more than the sliding action near the top of the barrel. A barrel 5-ft. or 6-ft. in diameter is not too big if the volume of business is large enough to make it practical.



Some tumbling barrels have six, eight or more sides, usually of close-grained hardwood such as maple or birch. A suitable door for loading and unloading must be provided. The drum is mounted centrally on a horizontal shaft and driven by belt and pulley or chain and sprocket.

If the items to be tumbled are somewhat fragile, fill the barrel full, run it a few minutes, stop and add more to make it full again, run for some time, watching closely for damage. These articles may be run with pumice (either rock or powder) or sandpaper, or other abrasive, but not too much of either, as it will make too much dust—cushioning the grinding action and leav-

LACQUER FOR A GIANT

New multi-jet flying boats, weighing as much as 85 tons, are finished with an all-lacquer system to protect hulls and wings against salt water corrosion. Unsurpassed in drying speed, lacquer reduces application time as much as 50 per cent; is being used by both manufacturers and airlines.

THE "IDEAL" FINISH

Rway Furniture Company wants a furniture finish that sprays easily, dries rapidly, produces a rich finish with a minimum of rubbing, and has durability. To meet those qualifications the company uses "hot lacquer" for the ideal finish at minimum cost.

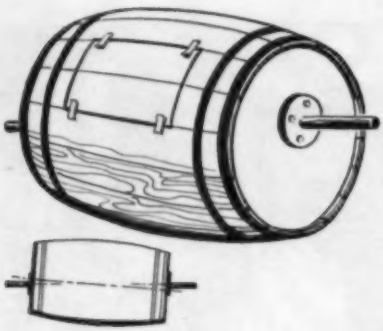
"ELASTIC" INK

Another indication of the versatility of nitrocellulose is its use as the film-former in inks for new packaging materials such as Mylar, Saran, and Saran-coated cellophane. Nitrocellulose helps provide the necessary flexibility, hardness and marproofness.

For further technical or marketing information on these or any other developments in lacquer-type coatings made from nitrocellulose, ethyl cellulose, cellulose acetate, or Parlon® (chlorinated rubber), write to.

Cellulose Products Department
HERCULES POWDER COMPANY
928 Market St., Wilmington 99, Del.

CL55-1



A "crazy barrel" is mounted off-center on opposite drum ends so it has a "weaving" motion when it rotates. It gives the contents not only a rolling action but causes them to move from one end of the barrel to the other once every revolution. This combination of motions (rotating and tilting) is desirable on some kinds of work.

ing too much dust on the items for clean finishing. A good way to clean a load like this is to tumble it in a horizontal drum fitted with a wire mesh door or side. Add to the load some dry sawdust or fine shavings and tumble until the items are free of surface dust which, as it is rubbed off, falls through the wire mesh at every revolution of the barrel. I have seen them run up to two or three days in some special cases.

Coating With Shellac Poses Special Problems

The tumbling of shellac is altogether different from that of enamel and varnish. The horizontal type barrel is best for shellac or the crazy barrel* will give you more friction, which is needed to dry shellac. Load the barrel about ⅔ full and pour in some shellac (about a 5-lb. cut is the best viscosity but, as in enamel, it may need to be varied according to the items to be finished). Four to six hours are required to do a good shellac job, and the items stay in the barrel until finished. Two to four quarts may be put on the first time; then add less and less each time until the desired finish is obtained. Open the barrel every ten or 15 minutes to check progress and be sure to avoid letting them get too dry, so as to become flaky, especially toward the end of the finishing process.

*A horizontal closed barrel with its shaft mounted off-center at opposite ends to give the barrel a weaving motion as it rotates.

Aluminum Bronze Finish, And Gold Bronze Too

To get a good aluminum bronze finish, first tumble on two coats of filler; or if the item has deep recesses, it sometimes works better to make a small amount of grey very near the color of the aluminum and mix this with the filler. This grey material will provide a matching under coat and prevent thin places in the final aluminum finish from showing up too bad in the hard-to-get-at places of the items.

If you are using a open-end barrel, after the turnings are well filled and smoothed up, load the barrel and give the items a good coat of varnish; then, when they are nearly dry enough to take out, use a large salt shaker or something similar, and dust the bronze powder onto the turnings as they are tumbling. After a little experience it should be easy to get a nice over all finish.

With gold bronze it helps to use a little dark yellow with the filler on irregular items. [*To page 72*]

. The ingenious Beaver Dam, constructed of twigs, brush, stones and mud, possesses amazing sealing qualities . . . some dams extending over 1000 feet across and sealing off ponds of hundreds, even thousands of acres.

when it comes to

sealers . . .

Nature's architect, the Beaver, seals his structures with twigs, mud, and a great deal of time and effort. In industry, fortunately, important sealing operations are accomplished much more easily and efficiently thanks to the great variety of fast application, high quality sealers manufactured by James B. Day & Co

JAMES B. DAY & CO.
CHICAGO 14, ILLINOIS

Industrial Finishes for Application by All Methods

sealers	**lacquers**	**stains**
fillers	**enamels**	**glazes**
shellac	**undercoats**	**specialty finishes**

Better Industrial Finishes for over Half a Century

If you use the closed type of tumbling barrel it will be necessary to use the bronze mixed in a varnish to be poured onto the items for the finish coat, but be sure they are well filled. Some finishers even prefer to use the bronze-varnish mix in the open barrel. If you use it mixed you can mix it yourself or buy it ready mixed. If you mix it yourself, 1-lb. of powder dampened with thinner and mixed with one gallon of varnish is about right for aluminum; and for gold bronze, 2-lbs. to a gallon of varnish.

When using gold bronze, never mix more than you will use immediately, as it will tarnish in the varnish, and the varnish will jell over night.

If you should want to use gold bronze for spraying, get a non-jelling bronzing lacquer made especially for the purpose, if you mix your own. A mix suitable for tumbling is all right—as to quantity of vehicle and powder.

This tumble finishing looks easy, and with patience and experience one can learn to get good results.

F. R. Chase Sales Mgr. for Torit

Frank R. Chase has been named sales manager for the industrial division of the Torit Mfg. Co. of St. Paul, Minn.

Chase was sales promotion manager for another firm in St. Paul for five years before joining Torit's staff. He is now in charge of sales and advertising for the Torit dust collector products.

The Torit Co. manufactures a complete line of dust collectors for industrial use.

W. F. Goepfert is Advanced by Interchemical Corporation

Werner F. Goepfert has been appointed manager of the Techincal Service Department, International Division, Interchemical Corp. In his new position Mr. Goepfert will be responsible for technical coordination for Interchemical's overseas affiliates and the manufacturing organizations with which the corporation has know - how agreements.

Most recently personnel manager of Interchemical's central research laboratories in New York, Mr. Goepfert has been with the corporation in various technical and administration positions since 1939.

Dupont Shifts Personnel

James Leo Masterson has been appointed San Francisco regional sales manager of the Du Pont Co.'s Finishes Division. He succeeds John T. Edgerly, regional sales manager since 1942, who will join the Wilmington sales staff of the Finishes Division.

George H. Berlin, Jr., industrial sales manager of the San Francisco region since 1953, has been named Kansas City regional sales manager, a position held by Mr. Masterson since establishment of the region in 1952. Edward M. Taney, Jr., industrial sales field manager in the Cleveland region since 1953, will succeed Mr. Berlin as industrial sales manager in San Francisco.

Steel Structures Painting

Specifications for paints have been published by the Steel Structures Painting Council, 4400 Fifth Ave., Pittsburgh 13, Pennsylvania.

Twenty Paint specifications have been issued; they include 12 primers for structural steel, a cold applied asphalt mastic coating, and 13 intermediate and finish coat paints. Oil base, phenolic, alkyd, and vinyl paints are included.

The specifications are published in a booklet of 96 pages, 8½ x 11-in. and may be purchased from the Council for $1.50.

Tips on Touching Up—II (Wood Finishing)

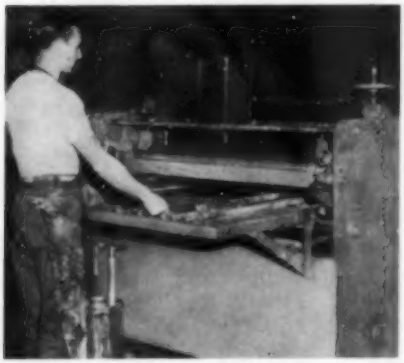
A WHITE SCRATCH is a line of fractured finishing material caused by the striking or abrasion of some hard object. A good finish will resist such scratches and this resistance is greatly stressed in finish formulations. The whitish appearance is due to the loosening of the finish from the coated surface, and does not necessarily indicate that the stain coat has been scratched nor the wood damaged.

To remove a scratch of this kind from dark stained finishes, the following procedure is recommended. Take a sheet of No. 320 wet-dry sanding paper and a few drops of paraffine oil and rub over the scratch vigorously a few times. Then take a sewing needle and, without pressing too hard, scrape out the whitish material forming the scratch. Now remove the oil with naphtha. If the material does not lift out easily at first, repeat the rubbing.

Once the defective material has been removed the surface will reveal its normal color but will show a "valley" where the finish has been broken. This can be filled in the following manner.

First, pad over the defective area with an ether varnish or a good padding lacquer. Then flow in a small amount of orange shellac with a touch-up brush or quill. Allow this to dry; sand lightly with wet-dry sanding paper and oil; clean up with naphtha, and finish the job with padding lacquer or ether varnish. The process can be repeated as often as is necessary to bring the finish up flush or level with the adjoining surface.

On blond finishes, omit the oil and use naphtha for rubbing. For filling with the brush use white shellac or lacquer sealer, and sand, with naphtha as a lubricant. For padding, use a very pale or "bleached" material. —*H. L. Round.*



Roller coater being used to apply a base enamel coating on steel and aluminum sheets in the plant of Scioto Sign Co., Kenton, O. A controlled quantity of enamel is evenly rolled on over the entire piece. Photograph, courtesy of Gasway Corp.

Paul Blackmore to Attend Meetings in Europe

Paul O. Blackmore, of Interchemical Corp., Newark, N. J., will represent the Federation of Paint & Varnish Production Clubs at the summer meetings of the Federation of Technical Association of Paint & Printing Ink Industries in Continental Europe (FATIPEC) and the Oil and Colour Chemists' Association of Great Britain.

Mr. Blackmore, a member of the New York Club and a Past-President of the Federation, will present a technical paper at both of these meetings. He will be accompanied on the trip by Mrs. Blackmore. They will leave New York City on May 11th aboard the Queen Mary. Mr. and Mrs. Ralph E. Pike, of the E. I. du-Pont de Nemours & Co., Inc., Flint, Mich., will also attend the Conference.

The FATIPEC Congress will be held in Spa, Belgium, from May 22nd to 27th. The theme of the Congress will be "Color and Color Matching" and Mr. Blackmore will present a paper entitled "The Status of Color Technology in the U. S. A." This work was authored by Mr. Blackmore, Mr. Pike, and Dr. Lou Wurzburg and Daniel Smith, of Interchemical Corp.

How I did in the Role of EXPERT

BY ART BRADLEY

THIS EXPERIENCE has to do with an advertisement published in *Industrial Finishing Magazine* several years ago. The ad ran something like this: "If you have a finishing problem, call in an expert".

When he read this ad in *Industrial Finishing*, the superintendent of a certain plant promptly consulted his executives. After a conference they agreed that perhaps an expert could help iron out some of their troubles and possibly reduce some costs in their finishing department. Accordingly, the ad was answered and the gears were set in motion by way of the advertising manager, etc.

Learned of My Customer's Problem Through an Ad.

In due time I was notified about this delicate problem existing in an establishment that I had been calling on regularly, month after month for several years. I knew all of the individuals of the small company fairly well, including the man behind the gun, as well as the man with the (spray) gun.

I wondered just what their problem could be, as I knew their operation fairly well. Among the facts I knew was that they had not always been 100% my exclusive customer. In fact, when certain jobs came along, they bought competitive equipment because of the lower price. However, most of the spray equipment they used was supplied by my company.

Because this company was some 140 miles away, and since I collected seven cents a mile travel money I thought this summons should be answered at once, so I put it on the agenda for immediate attention.

Then I Present Myself to Supt. As "The Expert"

Upon my arrival I called at the office and asked for George Bouncer, the superintendent, whom I knew very well. He soon showed up and I presented myself as the "expert". George laughed and we exchanged a couple of jokes regarding an "Expert". Finally George decided to present his problem, although I know that he felt it was a waste of time and effort. Their problem was one of using too much coating material on slender objects. Their varnish cost was something like $15.00 per gallon. It was a high

"What does a spray equipment salesman know about our problems? Let's answer that Industrial Finishing advertisement and bring in a real expert."

priced material used on a high priced product—fishing rods.

This time I was shown more of his operation and problems than I could have ever known by saying "hello" in the lobby, as on previous calls. Having been given the problem and knowing what was wanted, I was left alone to work it out. I could easily see that my salary was peanuts compared to the savings that could be made here if everyone cooperated.

First thing I had to do was to sell the spray man on the proposition that I knew what I was doing. I did this by some tactful conversation and also through my skillful handling of the spray gun. The spray man was favorably impressed and I soon made him realize that I could back up what I was talking about. I needed his confidence so that he would listen to me and follow my instructions.

At this point I ran out to my car, where I had more spray equipment than the average distributor's store, and brought in enough shining new spray caps and fluid tips to dazzle the spray man into utter confustion. "If you can't sell them, confuse them", has been my motto.

[*Continued on page 76*]

"Mr. Jones can't see any salesmen right now. He's waiting for his appointment with a high powered industrial finishing expert."

Used My Knowledge and Time To Do A Real Job

Production in any plant is the master mind's problems, but I disregarded that phase. I rearranged the spray gun, reset the tank and air pressures and began to play with the problem myself. After all, I had to find the answer to qualify as an "Expert". It didn't take long to find the answers. In the process I had made only 12 to 24 rejects.

I turned the spray gun over to the spray man, and his technique amazed me; it was perfect. The fluid pressure was tested for his speed of operation and for the fluid quantities required by the fluid tip being employed. Changes were made according to his requirements. After about an hour, the cap, tip, fluid pressure, air pressure and production were all "in balance" for satisfactory operation.

Teach Operator What to Use And How to Use it

The spray man started slowly, as a "fly rod" is six-sided (hexagon shape in cross section) and each of the six sides must be sprayed with a full wet coat, but no runs are allowed. A small "fly rod" is about ½-in. in diameter at the large end and about ⅛-in. at the small end. Each flat side being sprayed is about ¼-in. wide at the large end and tapers to 1/16-in. at the small end. The shape and size of the product presents a serious problem as to possible runs and frequent rejects, in addition to material costs. The operator's motion over the length is a variable and the overspray over the length is a variable, so the speed of spraying the rod length must be variable.

Before I entered the shop as an "Expert" the spray man had accomplished this successfully, but when it was called to his attention, something threw him off and now he was conscious of it. However, within a few moments he was again operating easily and satisfactorily.

I put on a very small fluid tip and used this in conjunction with a round spray cap, which made the operation much more critical as to the direction of the spray. Previously the operator had used an .055 fluid tip and a fan spray about 3-in. wide. Now he had a .02 fluid tip with a round spray pattern about ½-in. wide 6-in. from the work. The spray man did marvelous work. His coordination of speed and distance was perfect. [*To page 78*]

NIKOLAS

SINCE 1890

IT'S A FACT

The finest lighting fixtures manufactured by the Lighting and Lamp Industry are finished with Nikolas Quality Finishes.

Whether the requirements be for lacquers or synthetics; air drying or baking, in clear, transparent colors or enamels, Nikolas Finishes for over 60 years have been accepted as the most economical to use, yet producing the finest most durable films available.

Rejects because of finishing material failure cost money —and customers.

Eye Appeal Sells Your Product!

FOR INFORMATION, SAMPLES AND RECOMMENDATIONS
WRITE — WIRE — OR CALL

G. J. NIKOLAS & CO., INC.

2850 WASHINGTON BLVD., BELLWOOD, ILL. • 33 GRAND ST., BROOKLYN 11, N. Y.

Summing up the Results; Who Was Happy and Who Was Not

Well, I left after two days work and about $6.00 in sales. Everybody was happy except my sales manager. It had been a very expensive service call for my company. Service calls cost money. Really they should rate a service charge based on the man's time and his traveling expense.

". . . . and so actually my sales to them are down. If I could only get my hands on that darn expert . . . . !"

In due time I returned to check results and to see if my advice was still being followed. I called for George the superintendent, who told me the following story:

The representative from their paint supplier came in and asked how business was going.

"More business than ever", George replied.

"What percent over March?", the representative asked.

"100%", George declared.

"What kind of varnish are you using now?"

"You're still supplying us 100%", said George.

"How come", asked the representative, "your business is up 100%, but the quantity of varnish used is only 50%?"

George thought for a moment and then replied, "I answered an advertisement I saw in *Industrial Finishing*, and got an 'Expert' ".

Glidden Buys Zapon I. F. Div'n of Atlas Powder Co.

Purchase of assets of the Zapon Industrial Finishes Division of the Atlas Powder Co. of Wilmington, Delaware, by The Glidden Co. is announced by Dwight P. Joyce, Glidden president and the board chairman.

The acquisition includes all patents, formulas, trademarks, certain specialized equipment and the sales and technical staffs of the Zapon Division. The new unit now operates as the Zapon Industrial Coatings Division of The Glidden Co.

Mr. Joyce reports that Glidden will utilize the plant facilities of Zapon at Stamford, Conn., and North Chicago, Ill., during a transition period so as to avoid interrupting service to present customers. Plant operations will later be transferred to modern Glidden facilities that presently exist in those areas.

Glidden is now a major producer of industrial coatings with 11 plants in this country and Canada.

Furniture Mfrs' Handbook

A Collective Bargaining Handbook written especially for furniture manufacturers has been published by the National Association of Furniture Manufacturers, 666 Lake Shore Drive, Chicago 11, Ill.

This new copyrighted 90-page ready reference guide reveals the practices of the industry in all of the important phases of union-management negotiations.

Random Comment on the Industrial Scene

(Continued from page 6)

heads in the pipe system to put out the fire. It works, and there is no water damage.

Still on the subject of fires, a new technique in fire fighting was recently demonstrated in Santa Rosa, Calif. To clear land, a 60x60-ft. barn and a 2-room house were purposely set afire. A dry chemical, used to knock down the flames, accomplished same within 30 seconds. Then water was quickly applied to douse the embers and prevent re-ignition. Less than 200-lbs. of dry chemical and less than 200-gallons of water were used to extinguish the fires.

A good idea for those plants located where the water supply is short during some seasons of the year.

* * *

Fire Curtain Kills Noise. A new product called TransWall, by Bemis Bro. Bag Co., is a lightweight, retractable sound barrier curtain designed especially for industrial applications. The curtain is made of a flame-resistive and sound-reflecting material known as Bemisorb, a specially treated and coated burlap recently introduced by the bag company. The new product, a result of 2½ years of noise-control study, can be utilized to reduce critical factory noise level at its source.

TransWalls can be installed anywhere in a factory to isolate machine and production noise, and in areas that are potential fire hazards or otherwise dangerous to employees.

* * *

Hydrocide Colorcoat is a new protective finish for both industrial and residential building exteriors which, in one coat, provides a water-repellent surface, even for such coarse materials as cinder block, announced by the Building Products Division of L. Sonneborn Sons, Inc.

According to the manufacturer, Hydrocide Colorcoat's oil base provides durability, stability and elasticity—while the silicone compounds provide water repellency and permit the finished surface to "breathe". Natural surface-bond provided by the oil base is strengthened by the mechanical adhesion of reinforcing aggregate.

* * *

Why Aluminum Fasteners? The uses of aluminum fasteners—nuts and bolts, wood machine and sheet metal screws, rivets, license plate fasteners, nails, and specially machined items—are on the upgrade as more and more fabricators of aluminum are learning that they should "fasten aluminum with aluminum fasteners."

Through the use of aluminum, galvanic corrosion which takes place when dissimilar metals are used, does not occur when aluminum is secured with aluminum.

New L. A. Firm Makes Graining and Roller Coating Machines

Kent Rotary Equipment Co. is the name of a new concern in Los Angeles, engaged in the design, manufacture, sale and servicing of automatic graining machines (horizontal and vertical) edge graining machines, engraved cylinders and plates, composition and neoprene printing rollers and roller coating machines.

Joseph Kent, formerly with another firm that makes graining machines, is sales and service manager of the new concern. The Kent Company, according to Mr. Kent's announcement, is bringing out machines of improved design and efficiency and is giving special emphasis to technical consultation and service to customers. Experienced technical men in the firm are available for this service according to Mr. Kent. Address of the new concern is 1821 Elgecliffe Drive, Los Angeles 26, Calif.; Telephones Normandy 5-6505 and 5-8726.

ACTUAL PRODUCTION RUNS PROVE NEW EGYPTIAN 700 GLAZE

Out-Performs any Comparable Finishing System*

Wherever there is a Casting to Finish

New Freer Sanding — Faster Drying

EGYPTIAN 700 GLAZE

Brings Amazing Finishing-Room Economies

Still Retaining the

• DURABILITY • ADHESION • APPEARANCE

• IMPACT RESISTANCE

of Slower Drying Systems

*Facts from Egyptian New Product Field Report

EGYPTIAN *Industrial Finishes*

The EGYPTIAN LACQUER MANUFACTURING COMPANY

BOX 444, NEWARK 1, NEW JERSEY

EXECUTIVE OFFICES, ROCKEFELLER CENTER, N. Y. • Plants: South Kearny, N. J.—Lafayette, Ind.

NOTE THE ADVANTAGES OF NEW EGYPTIAN 700 SYSTEM

(PRIMER-GLAZE-ENAMEL)

GREATER IMPACT RESISTANCE* New Egyptian 700 Glaze showed greater resistance to impact and mechanical abuse than any comparable system tried.

SUPERIOR ADHESION QUALITIES* New Egyptian 700 System showed vastly superior adhesion qualities when checked against comparable systems.

EVEN FREER SANDING* New Egyptian 700 Glaze proved to be even freer sanding than comparable systems. Need for coarse sanding eliminated. Sanding is done with #100 and #150 paper. Most small castings require no sanding.

EVEN FASTER DRYING* New Egyptian 700 Glaze dried even faster than comparable systems making speed drying their basic claim to merit. In cases of exceptional rush, Glazed Work was satisfactorily sanded within an hour after application.

NO TENDENCY TO PULL OR ROLL* Egyptian 700 Glaze is unusually easy to apply by knife. Remains soft and workable for as many as 40 knife strokes. Shows no tendency to pull or roll. This remarkable workability makes it easy to Glaze large areas without showing lap marks.

SPRAY, BRUSH OR GLAZE* New Egyptian 700 Glaze can be sprayed, brushed or glazed with equally fine results, bringing a high degree of versatility to your finishing room equipment.

Your Egyptian Industrial Finishes Specialist is anxious to show you how the NEW EGYPTIAN 700 SYSTEM can cut your costs of finishing Castings, Machine Tools and Fabricated Metals without cutting quality. No obligation of course.

SAVE TIME USE THIS COUPON

EGYPTIAN LACQUER MFG. CO.
Box 444, Newark 1, New Jersey

☐ Forward More Detailed Information.
☐ Have Egyptian Industrial Finishes Specialist call.

Show me how NEW EGYPTIAN 700 GLAZE can cut my Finishing Costs and still retain the Qualities of Slower Drying Finishes.

Name.....

Company.....

Street.....

City.....State.....

Paint for Fishing Lures

In the March "Letters from Readers", page 80, we notice that you received a letter from "C Bait Co." who is having trouble with painting artificial lures; that is, water is causing the finish to crack and chip.

We have been furnishing materials to the fishing tackle manufacturers for some years and in this time have developed a complete line of finishing materials for the industry.

In the last few months we have developed a top coat clear that can be applied by the spray or dip method (without dragging the previously applied enamels). This same material —that is the film produced by it—has shown that it is not affected after being under water for a period of four weeks. At the present time this material is being used by several bait manufacturers . . . . .—*G. J. Nikolas & Co., Inc.*

Gasket Dipping Handles

We are interested in obtaining information about gasket dipping broom handles by a continuous process. These handles come off an automatic horizontal lathe at the rate of three 6-ft. handles per minute, and would be fed directly into the gasket dip equipment. Any information you have with regard to this type of equipment, especially with reference to suppliers, would be greatly appreciated.—*C. I. L.*

We believe that a machine for gasket dipping broom handles by a continuous process, such as you indicate, would have to be specially designed and manufactured. We know of no standard machines that perform such operations.

In regard to special service on something like this, we are writing you a letter and referring you to certain firms and individuals who are in position to develop the kind of equipment you have in mind.—*Editor.*

Roller Coating Machine

We have a firm who asked us about a roller coating machine. Would you kindly give us the names and addresses of manufacturers of same in all sizes? We will be sure to ask him to mention your name in his inquiries. —*New Process Studios.*

In a letter we are listing several of them in and near your locality (N.Y.C.)—*Editor.*

That "Longest" Paint Line

I have just finished reading A. L. Suhre's fine article in March issue of *Industrial Finishing*, pages 22-32, on an automatic prime painting line at Douglas Aircraft.

We don't know what constitutes "a world's largest or longest continuous paint line"; however, we can assure you that Douglas' is not the world's largest, or longest.

Our completely automatic prime and finish coat continuous finishing

Functional Finishes!

If you require your coatings to accomplish some specific task — something beyond mere ornamental appearance or average longevity . . .

We make ACRYLIC, ALKYD, CELLULOSIC and VINYLOID coatings for a very wide range of specialized industrial applications.

TRY US!

• **THE VARNISH PRODUCTS COMPANY**
5206 Harvard Avenue, Cleveland, Ohio

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PIONEERS IN ENGINEERING, MANUFACTURE AND INSTALLATION OF

INDUSTRIAL OVENS
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TR 3-2100

line, installed in 1952, and covered by my article in the October, 1953, issue of *Industrial Finishing* magazine, is considerably longer than the Douglas system. Our processing equipment line is over 50% longer than that of Douglas.

Kindly advise Douglas Aircraft of our claim and that we are expecting to have "The World's Largest" pennant sent on to us for possession until someone else claims the title.—*R. J. Deisenroth, Methods & Processing Engineer, The Troy Sunshade Co.*

"Where is your wash booth?"

Waterless Skin Cleaner

On page 4 of February, 1955, number, we see mentioned, "Waterless Skin Cleaner". We are interested in this product; would you please inform us the name of the manufacturer.—*Philips Mexicana, S. A.*

Several others have asked about this too. It's a product of Hammons Products, Inc., 1143 Wildwood, Ft. Wayne, Ind.—*Editor.*

Want Metallic Finish

Could you kindly forward a list of suppliers of materials and service for a desirable metallic finish which would closely simulate brushed brass or silver? I noticed that you recently answered such a request made by "D. Metal Products Co.".—*J. L. (Chief Industrial Engineer).*

Information supplied by letter.—*Ed.*

Electrical Conducting Paint

We would appreciate information as to possible suppliers of paints capable of conducting electricity.—*M. & D. Co.*

In a letter we are naming several concerns that manufacture and sell such a paint or coating material.—*Ed.*

On page 78 of the Feb., 1955, issue of *Industrial Finishing* we note that one of your readers is looking for a paint having electrical conductivity characteristics.

Since we have been supplying this type of material for many years, we hope that we were among the names of the six concerns that you gave to your reader.

In the event that this is not the case, we would appreciate your forwarding our name to him since we have a great deal of experience in this field. We are also interested in learning more about how conductive material is used in printed circuit applications and we would appreciate being able to correspond with this concern. —*Thompson & Co.*

Wood Repair Putty

Can you or any of your readers supply me with the names of manufacturers who are making waterproof wood repair putty in light, natural pine color that can be easily applied to dents, pitch pockets, etc., and which will resist the penetration of wood

Multiple Inside Drum Cleaner

Accommodates both straight sided and bilge type drums

Here is a machine, as illustrated above, that is capable of cleaning the interiors of four steel drums or barrels simultaneously, 30 to 50 to 110 gallons in capacity.

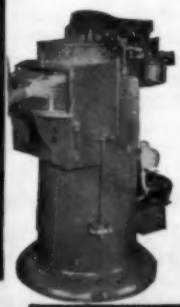
The rocking frame tips six times per minute while the drums rotate at 28-RPM.; the combined motions cause the abrasive to pass over 131 lineal feet per minute, the path being a tight over-lapping spiral. Tipping lag leaves the abrasive in contact with chime slightly longer, to clean both side and ends equally. As no locking mechanism is required to retain drums in frame, any one drum can be removed independent of the others, without stopping the machine. The open base permits mounting machine over pit to receive spent cleaning solutions for settling and reuse. Every plant should have one. Write us!

THE VOL-U-METER CO., P. O. Box 54, Buffalo 16, N, Y.

RONCI SPEEDIP WHIRL ENAMELER

Made in Three Sizes, R-100, R-200 and R-300 Capacities 312-cu.in. to 4400-cu.in.

IDEAL FOR LACQUERING AND ENAMELING PARTS UP TO 20 INCHES IN LENGTH



CUTS COSTS, SAVES UP TO 80% OF MATERIAL

Carries up to hundreds of lbs. per load, and up to 30 loads per hour can be coated with lacquer or enamel in these machines.

All operations are within the machine. Dipping tank is raised, submerging the parts in the basket, and then lowered and the parts whirled, throwing off excess material. No additional outside tanks required; no cleaning necessary when changing colors; no loss of material.

Prompt Deliveries

Write for further information and submit samples to be coated.

RONCI MACHINE COMPANY

A Division of F. Ronci Co., Inc.

2 ATLANTIC BOULEVARD CENTREDALE 11, R. I.

sealers, etc., so that it will not darken upon application of natural finishes? —*Curtis Companies Inc.*

Yes, in a letter we are giving you the names and addresses of half a dozen such companies.—*Editor.*

Pre-Cut Stick-On Masks

Please send us names of manufacturers who supply pre-cut flat stick-on paper masks.—*Delta Laboratories.*

See advertisement in March issue, page 103 and Feb., page 96.—*Editor*

"Thanks for showing me how to un-clog my spray gun boss!"

"Splatter" Paint

The writer was explaining to a business associate that he was surprised that no one has ever tried to sell us "splatter paint", or however one refers to the type of splatter, or dotted or spotted finish on various products. It was observed that about 2/3 of the fiber glass boats at the recent Chicago Boat Show had this type of paint on the inside. We had never heard of the material, but we could have benefited by its use.

The person with whom I was talking then suggested that we might be interested in *Industrial Finishing.* He sent us a copy. Even before passing this on for review, so we might determine whether or not we will want to subscribe, I am hoping that I can address you for information about the type of product mentioned above.—*T. B. (Better Built Boats).*

Several paints that produce various dotted and spotted effects (in one single coat spraying) are now offered by leading manufacturers of finishing materials. Typical trade names include Plextone, Multakolor, Triolite, Tweed, Speck-L-Tone, Confetti, Granitone, Zatex, etc. Several of these have been advertised in *Industrial Finishing.* In a letter we are submitting names and addresses of the manufacturers.—*Editor.*

Dip Coating Technique

We are interested in one of the "Letters from Readers" published in Feb., 1955, issue—the one entitled, "Dip Coating Technique" which appears on pages 76 and 78. As manufacturers of circulating pumps, we feel that we might be of assistance to "S. S. Co." with the proper equipment to do the job.—*Gray Co., Inc.*

It's a nationally known paint manufacturer eager to help a customer. In a letter we are revealing the company's name.—*Editor.*

Where to Get "Black Magic"

We will appreciate your help in advising us the name of the manufacturer of a product called "Black Magic". This product is a material used as a dip process for coloring

LOW COST THINNERS

Ask for Quotations!

- **FORMULATED TO MEET ANY SPECIFICATION**
- **QUALITY AND UNIFORMITY GUARANTEED**
- ***Specialists in Thinners for* Leather, Metal Etching, Polystyrene Plastics**

Shipped in our own Tank Trucks, Drums or 5 gal. Cans

Synthetic Reducers and Retarders

Write or phone for technical information.

ELL-BEE CHEMICAL CO., INC.

HANOVER, N. J.
Phones: WHippany 8-0194; 8-1277
Prompt service and deliveries.

WATER WHITE LACQUERS & SEALERS HIGH SOLIDS AND NON-YELLOWING

for: — MODERN FURNITURE
and all light shades

- **LOW COST**
- **COLD SPRAY**
- **VARIOUS SHEENS**
- **EXCELLENT BUILD**
- **MAR RESISTANT**

Stop "Fish Eyes" and Craters with
SILICONE LOCK-SEAL 1X3

When refinishing furniture, cabinets or woodwork where a Silicone finish or Silicone furniture polish has been applied, apply a barrier coat of SILICONE LOCK-SEAL 1X3, because . . .

Silicones penetrate through the finish into the wood grain. If not locked in and sealed, the minute particles of Silicones cause craters or "fish eyes" in all top coats.

LOCK SEAL 1X3 can be used under lacquers, varnishes, shellacs, enamels and paint. Can be applied by spray or brush.

To be sure, only SILICONE LOCK-SEAL 1X3 can do this job.

Write for complete information.

Manufactured Exclusively by

H. BEHLEN & BRO., INC.

8 CHRISTOPHER ST., NEW YORK 14, N. Y.

West Coast Branch: 1755 Berkeley St., Santa Monica, Calif. Factory: Kearny, N. J.

iron, copper, brass, etc. We are sure this product was advertised recently in your magazine and if you can help us in locating the manufacturer, we will thank you very much.—*K. Chemical Co.*

It's a product of The Mitchell-Bradford Chemical Co., 2446 Main St., Bridgeport, Conn.—*Editor.*

Clean Chain Hooks

In the Question and Answer section of January 1955 issue, we notice an article titled, "Dirt on Our Finish." It is our opinion that the answer given by P.C.B. is correct, and we would appreciate an opportunity to present to the Steel Kitchen Cabinet Mfg. Co. our method of continuous paint stripping. We have put in numerous installations of this type in the past, with a high degree of success. We would be interested in the name of the manufacturer, or the forwarding of our information to him. —*Klem Chemicals, Inc.*

The manufacturer is in Baltimore. In a letter we are giving you the full name and address.—*Editor.*

Grained Finish on Steel

We have a problem of applying a wood grain finish to formed steel panels. We prefer not to use the steel in prefinished form, as our forming operations would be too hazardous and have proved to be such in our trials. We are therefore interested in finishing the piece after forming. The pieces are covers about 8-in. x 3-in. and ¼-in. deep. The ¼-in. sides have to be finished as well as the top, which is not one smooth piece but has some raised portions.

Chances are

Your competition knows more about

if you don't yet have a copy of this free brochure . . .

Admiral, Hotpoint, Sunbeam, General Electric, Westinghouse, Cadillac Motor—all have proved it in the past four years. They report production increases up to 200%. That's why all have reordered.

They've shaved maintenance costs as much as 90%. What would these precentages mean to you in dollars saved and dollars received from increased gross sales?

How are these figures possible? These companies and many others are checkmating rising production costs by utilizing the efficient operation of Jensen PAN - L - HEAT Ovens.

Completely different, patented construction principles of Jensen Infrared Ovens have reversed cost curves, have caused production curves to soar in finishing plants in every industry.

Is equipment available for handling a job like this?

We would appreciate names of manufacturers who could handle this problem for us.—*E. Case Co.*

We believe that the use of prefinished and grained flat panels, to be formed later, is your answer, notwithstanding your previous failures. However we are giving you names and addresses of several manufacturers of graining equipment. Also, we are naming a few custom finishing shops where you might have this work done.—*Editor.*

Who Makes "Duro Aluminum Shell"?

One of our associated companies overseas has asked for the source of "Duro Aluminum Shell," which, they claim, is available in this country.

The material is apparently a paint which is applicable to ferrous, nonferrous and wooden surfaces. The liquid evaporates to leave a nonporous aluminum film and the film is supposed to withstand flexing and extremes of heat and cold.

In our search through trade magazines we have been unable to locate any reference to this material.—*Z.*

We don't know. Who can tell us? —*Editor.*

G. B. Work, New President of Reliance Varnish Co.

Mr. G. B. Work, formerly general manager of Atlas Powder Co.'s Industrial Finishes Division at North Chicago and Stamford, Conn., has been made president of Reliance Varnish Co., Louisville.

Before joining Atlas Powder Co. in 1948, Mr. Work was industrial sales manager of The Glidden Co.'s Reading, Pa., establishment for several years.

cutting finishing costs than you do–

"Butterfly heat distribution gives us the heat uniformity we need."—Hartford Industrial Finishing Company. "Paint drying, handling time reduced over 700%"—Lockheed Aircraft. "Never saw better ovens than PAN - L - HEAT"—Sunbeam Corporation.

Investigate possibilities of PAN-L-HEAT in your finishing operation. This coupon will bring you immediate action, or check the publisher's reply card.

Jensen SPECIALTIES, INC.

Representatives in Principal Cities.

JENSEN SPECIALTIES, INC.
9352 Freeland Ave., Detroit 28, Mich.

DEAR SIRS:

☐ Please have your representative phone for appointment.

☐ Please send your 16-page descriptive brochure.

Name.....

Company.....Title.....

Address.....City.....State.....

STILL "HORSE-ING AROUND" with OLD PUSH-PULL HANDLING?

- TREMENDOUS ADVANCES HAVE BEEN MADE IN HANDLING AND PROCESSING FURNITURE THRU THE FINISHING ROOM!

- DO YOU REALIZE THE VAST TONNAGE THAT MUST BE LIFTED, PUSHED AND SHOVED?

"Watch it, boy!"

DO YOU REALIZE

—that 78% of the labor is non-productive?
—that practically all damage and breakage are caused by handling?
—that with a DeBurgh Conveyor all handling is eliminated, saving labor and damage?
—that DeBurgh systems retire their cost in less than two years?

"Designed BY a Furniture Manufacturer FOR Furniture Manufacturers"

Investigate!

DeBURGH CONVEYORS, Inc.

10 SOUTH 11TH AVE.
EVANSVILLE, INDIANA

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WASHINGTON 6, D. C.

ROCKFORD VARNISH

RV

ROCKFORD, ILLINOIS

MANUFACTURERS OF PROTECTIVE AND DECORATIVE FINISHES

Are you approaching things a little gingerly today, like sticking your toe in first before taking the plunge? Well, if it's a finishing problem you have, may we suggest you let us make the test for you. Our laboratory facilities are extensive — and at your service. Our standard products run the gamut of known materials — but we are always willing to look for new combinations. For those of our customers who wanted them, we have developed a number of very interesting specialties. And, if this thought should perhaps be of *special interest* to you, just drop us a line . . .

Affiliate: GORDON BARTELS CO., *Roller Coating Specialists*

Small Finished Wood Sample Panels

One of our customers has inquired as to who makes little wooden panels showing various stains and finishes. They anticipate using mostly gum wood, and they will need several thousand of these sample panels.—*P&LCo.*

These panels may be purchased in the white (unfinished) cut to your specification size in from ¼-in. to 11/16-in. thick, five-ply with oak, mahogany, walnut, maple, gum and various other species of wood face veneers. Most of these sample panels are cut from reject panels, generally those that are sanded through along one edge or elsewhere. Of course, you will have to specify plain or quartered, white or red oak, plain or stripe mahogany, etc. Then, after careful sanding, you apply the desired finishing materials.

If you do not know of any plywood firms, I suggest that you consult one of the furniture or woodworking magazines for names and locations of plywood suppliers, or you may consult the Thomas Register of American Manufacturers.—*P.C.B.*

Drying Paint on Railway Cars

On pages 97 and 98 of January 1955 issue, the article entitled, "Drying Paint on Railway Cars" interests us very much . . . It concerns the use of a different energy source than we use in our ovens, and the oven described was 8-ft. long.

The contour of one of our ovens to do this same job would be 11 lamps on each side of the oven, and the oven could be any length depending on the requirements for baking paint on cars.

For comparison purposes, if we were to make an oven approximately the same length as the one described, then it would be 7-ft. 4-in. long. The lamping per socket would be 250 watts and the total connected load 44-Kw.

From the description in the article we believe the connected load of that oven is 64-Kw. With 20 less kilowatts in our oven we are positive that in a given time-cycle the paint would be more thoroughly baked because of several factors.

First, it is apparent from the illustration accompanying the article that the oven described is of very open construction, the top having no enclosure at all. Secondly, the oven described in the article depends on convection heating principles to provide a part of the heat in the oven.

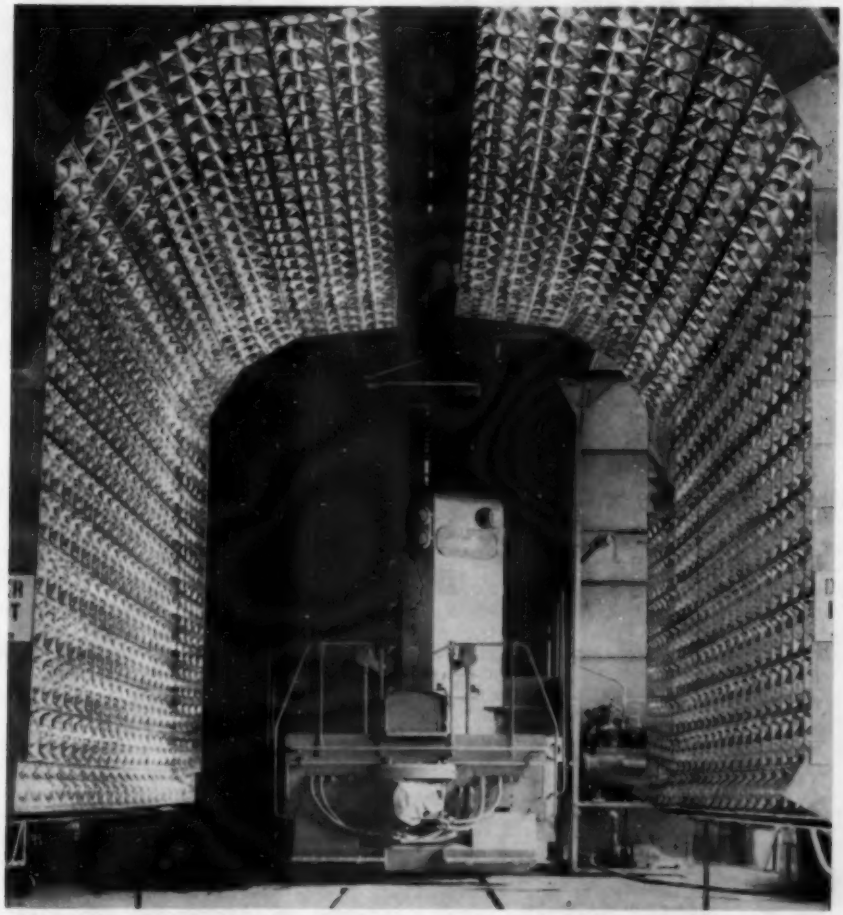
In such an oven the losses are great. Whereas in our oven, even though there will be some losses through radiation energy spill, such losses are reduced to a minimum. Our ovens do no depend on convective principles; heating is done by radiation. Pure radiation heating principles are generally recognized as being faster and more efficient.

Readers of *Industrial Finishing* may be interested in the accompanying illustration of a Fostoria oven in a plant where diesel locomotives are produced. To the best of our knowl-

edge this is the only infrared installation in the world that is being used to bake enamel on a locomotive.

Incidentally, we notice a discrepancy in the article. Reference was made to the pyrex tube remaining relatively cool and providing excellent transmission properties for the energy. Actually, there is little or no radiation from such a unit until the tube itself is hot. Pyrex is a poor transmitter of far infrared.

According to Corning Glass figures, pyrex when used as an envelope for a source of operating at temperatures less than 900° F., as employed in units mentioned and shown in the January article, will transmit less than 25% of the input energy.—*The Fostoria Pressed Steel. (Paul Krupp).*



An infrared tunnel for drying the paint on diesel locomotives and railway cars.

DEGREASE in 5 SECONDS!

with an

INDUSTRIAL WASHING MACHINE

This machine, in daily use, cleans small parts in seconds — thanks to extreme high-pressure spraying. It's only one of INDUSTRIAL's 38 standard basic washing machine designs. If one of these standard models won't do your particular job, our engineers can design a machine that will.

Get the full story. Write Dept. I-4.

USC INDUSTRIAL Systems COMPANY

Exclusive Sales Agents For
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Matawan, N. J.

Color Drift Control

The January issue of *Industrial Finishing*, page 84, included some comments on a problem of color change in paint master standards. P.C.B.'s answers were interesting to us in the Color Laboratory. We have been concerned with the same difficulties in establishing permanent visual standards for paints.

From our experience it is extremely difficult to get a porcelain panel which will match a paint sample under both daylight and incandescent light. This requires almost an identical reflectance curve, and runs into the limitations in coloring materials available to the two mediums.

P.C.B. refers to a company who has an individual making color matches in porcelain enamel at about $30.00 per sample. We wonder if the color so produced is judged only under one type of light?

If you have any information on firms in Chicago or vicinity which produce color matches on porcelain enamel on a commercial basis, we would like to hear more about them. Mr. Hunter, of Hunter Laboratories, has given us the names of two laboratories in the East who do this type of work, but indicated that they have difficulty in producing any specified type of variation. We have found it necessary to spend considerable time in trying to achieve visual matches in porcelain as part of our color program. Any assistance, or suggestions you make will be welcome.—*N. R. & Co.*

During visits with technical men in paint laboratories, over a period of many years, the problem of maintaining dependable color standards has often been discussed. All methods heretofore available have lacked stability of color in the absence of light. Liquid standards would change

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color in the containers. Paint-outs would yellow with age. Colors would drift further and further away from the original standards. There seemed to be no satisfactory way of checking color drift.

Early in 1938, the remarkable stability of color in the absence of light, of color chips on color cards manufactured by Bowles Printing Corp., was brought to the attention of a major Pacific Coast paint manufacturer, with the suggestion that color drift control standards made of these materials would solve this vexatious problem.

As a result of its suggestion, the firm was given an order to supply color drift controls for all colors then being produced by that manufacturer. This pioneer installation has been in continuous use for more than 15 years, and the system has been installed by many other paint manufacturers throughout the nation, and also in several foreign countries, with universal satisfaction.

Back in 1943, a large buyer of pigmented liquid coatings, was having great difficulty in maintaining uniform colors in materials manufactured to company standards. The subject was discussed with several paint company representatives who reported the successful use of this color drift control system in their industry. The firm was then requested to devise a color drift control system for use in the purchase of pigmented liquid coatings.

As a result of that request, an important improvement was made in the Bowles color drift control system. Each standard is now enclosed in a special black envelope to protect the surface during transit from point of origin to point of final use. . . .

Most color drift is the result of a

yellowing and darkening process that occurs to pigmented coating materials in the absence of light. It is a continuing process that becomes progressively worse with the passing of time, and too, many colored coating materials that appear to match while liquid do not match when the film is dry. Paint-outs of the actual material or liquid standards yellow and darken with age due to the absence of light.

This color drift control system is designed to supply uniform color standards that *remain stable in color in the absence of light.* Each standard is a separate unit that can be used for checking an individual color without being influenced by surrounding colors *and is designed to be used only once.* Being inexpensive, they furnish an economical means of maintaining colors as originally adopted. Each standard is enclosed in a 4x6-in. black envelope that can be stored in ordinary 4x6-in. card filing cabinets.

These color drift control standards are stable in color in the absence of light for periods of many years. Evidence accumulated through more than 20 years experience has indicated no perceptible change from the original colors when the standards have been kept in the dark. This is the normal condition of any standard stored for future use. They are not intended for exposure tests.

The Bowles color drift control system has been widely used for many years by paint manufacturers in all parts of the United States and in several foreign countries for the control of color drift in their paint products.

The system is also used by railroads, oil companies, public service corporations, the United States Government, equipment manufacturers and by many others to maintain uniform colors in purchases of pigmented coating materials made to their specifications.

In order to obtain the maximum benefit from the use of this system, *each standard should be used only once and then be destroyed. Never use them a second time.* The reason for this procedure is that, in handling the standards, fingermarks and other mars to the surface occur which give rise to optical illusions, frequently impairing judgment.

Proper procedure for the use of Bowles color drift controls in the purchase of pigmented liquid coatings is for the buyer to furnish the manufacturer with two color drift control standards for each color ordered every time an order is placed. The manufacturer should be instructed to deliver one of the color drift control standards to his tinter, the other to the control laboratory, directing them to file both controls with the batch ticket after approval of color, and never to use them a second time. Any attempt to clean the surface may cause a color change in the drift control standard and defeat its purpose.

These color drift controls can be matched to paint-outs or to most any other surface showing the correct color and sheen for which standards are to be made.

Where the same colors are manufactured in several sheens—for in-

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Many of the new colors shown at the last markets in modern as well as traditional were obtained with Decoralite—Did you see Decoralite in Charcoal, Ermine Brown, Kissing Pink, Peppermint Pink, Turquoise, Robin Blue, Bahama Yellow, Mint—or perhaps Topaz or Sage Green?

The finishing coats were Schaefer's Crystal Water White Sealer and Crystal Water White Lacquer, to further enhance the beauty of the wood and retain long lasting protection.

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stance, gloss, semi-gloss and flat—it is advisable to have color drift controls for each color in each of the sheens, due to the fact that it is difficult to check a gloss color to a flat standard, or vice versa.

Color drift controls are also recommended for both black and white because of the wide variations in pigments, vehicles and sheens.

Experience shows that most so-called whites are delicate tints or shades. Color drift is more pronounced in them than in most colors.

Comparisons of the Bowles color drift control standards should be made to dry paint-outs of the material being checked for color accuracy. It is the match of the film as it will appear on the finished surface, after it is dry, rather than a match of the liquid, that is of greatest importance in the control of color drift.

Do not confuse the Bowles color drift control standards with ordinary color chips. The materials from which they are made are radically different in composition and stability of color. This color drift control system is primarily designed for visual color comparison. It is easy to use and is thoroughly practical. While the system is notable for its simplicity it can be adapted to most any method of color checking.—*Bowles Printing Corp., 75 Third St., San Francisco 3, Calif.*

"Rosewood" Finish on Turned Handles

We are sending you a sample wood handle that has a finish which we call "Rosewood". You will note that it has somewhat of a grained effect. Our particular problem is that in order to get this graining effect we have to brush on by hand, with a small paint brush, a sort of paste material on a surface which is jet black, and then

dip the handle into a varnish finish which gives the desired effect.

What we would like to get away from is this hand work of brushing each individual handle. Formerly this wasn't so much of a problem, as time allowed us to handle the item in the past, but the volume has increased to a point now where we must seek some quicker and less expensive way to do this.—*M. & S.*

Editor's Note: The turned wood handle is less than ¾-in. in diameter and about 4-in. long. It has a smooth glossy finish—possibly a clear coat—over a very dark color that varies from dark red to almost black, with a "natural" grained effect or faint highlighting that shows tones of dark red blending naturally into almost black, as in genuine Rosewood.

The way you are doing it now is the only way I have heard of. This method has been used for over 40 years that I know of, and no knowing how much longer.

The way it is done is to finish the handle or turning in a nice dipped black enamel or jet. Then, with a brush, put on a very little Venetian Red (color in oil) brushed lengthways of the handles. Then dip immediately in a tank of varnish mixed as you would for any dip varnish job; as the varnish drains down the handles it grains out the color and gives the handles appearance of genuine Rosewood.

It can also be done with black lacquer and a clear lacquer top coat, but is more tricky to use.—*E. C. Hinkley.*

Design Show Postponed

The Design Engineering Show, scheduled to be held in Philadelphia in May, has been postponed until late Spring in 1956, it is announced by Clapp & Poliak.

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Dipping; Flow Coating Go "Modern"—III

SUCCESS in dip finishing can be achieved by several methods. One of these is through controlled withdrawal speed. The speed at which the product enters the material in the dip tank matters little just as long as it does not create a turbulence of the material, which would cause it to spill out of the tank onto the surrounding floor area, thereby creating a hazard.

What is meant by controlled withdrawal speed in dipping? It is simply that the rate of speed at which the product is withdrawn from the material in the dip tank is equal to the flow-off rate of material from the surface of the product.

The correct withdrawal speed can be determined only by trial. Obviously the higher the viscosity of the material, the slower will be the speed of withdrawal. In actual dipping operations the withdrawal speed will have to be adjusted from time to time to compensate for the evaporation of solvent from the material.

To determine approximately the correct withdrawal speed, a simple rule to follow, is to maintain about a ¼-in. meniscus. This is the curved surface of the coating material as it clings to the dipped product being pulled slowly upward from the coating material. At this speed it will be found that after the product emerges entirely from the material, if it is allowed to remain for 30 to 60 seconds over the tank, there will be no subsequent drainage or dripping of paint.

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Controlled withdrawal speed (impractical, of course, in hand dipping) can be accomplished by one of three methods: a mechanical device, a hydraulic lift, or a continuous conveyor with about a 60° angle U-dip instead of the long, shallow U commonly used over dip tanks.

Both the mechanical and hydraulic dipping devices operate similarly. The product or products are suspended from a rack or fixture whereupon they are vertically immersed in the coating material at a comparatively fast rate of speed. The withdrawal speed can be adjusted to the requirements of the material, based upon its viscosity.

For continuous conveyor dipping, the overhead monorail must have a U-dip over the tank, in which both legs of the U are set at aproximately a 60° angle. This is done so that the product suspended from the hangers will enter and emerge from the coating material in practically a vertical position. In such an operation the speed of the conveyor chain controls both entering and withdrawal speed, and may be adjusted to meet the requirements of any material based upon its viscosity. Even though the entering speed is much slower by this method of dipping, production will be as great, and perhaps even greater than is possible by either mechanical or hydraulic devices, because it is a continuous operation.

As in other operations where a coating material is applied to a product, the closer the viscosity is controlled, either manually or automatically, the better results will be attained—and the less frequent will be the necessity to change the withdrawal speed.—*X*.

For a good finish, control the real viscosity of your coating material.

Non-Yellowing Lacquer

A report has been issued on laboratory tests conducted to compare the non-yellowing quality of NCP white lacquer with other white lacquers. A raw wood panel was used for testing purposes and exposed to ordinary indoor light for six months.

The non-yellowing color retention quality of NCP white lacquer is invaluable to designers and manufacturers of furniture, and of products made of wood and plastics.

Details and samples can be obtained by writing The National Chemical & Plastics Co., 1422 Philpot St., Baltimore 22, Md.

For more data, circle 1 on colored card.

Rust-Inhibitive Al. Primer

A new rust-inhibitive aluminum pigment has been developed and pattented by Reynolds Metals Co. The firm will soon market this new product in the form of a paste made up of strontium chromate and powdered aluminum. It is expected that various paint manufacturers will soon offer paint made with this pigment.

Aluminum pigment offers effective hiding power, reflectivity and protection to underlying material. However, it has no rust-inhibitive properties. Strontium chromate, on the other hand, has very good rust-inhibitive properties, especially where salt water exposure is involved. The new pigment combines the good characteristics of both pigments.

Those interested may write Reynolds Metals Co., 2500 S. Third St., Louisville 8, Ky.

For more data, circle 2 on colored card.

Spray Catalyzed Material?

One of the new types of specialty finishes which is providing different protective coatings involves the use of catalyzed materials.

In creating its catalyst spray gun, The DeVilbiss Co. has developed an instrument that has enabled paint research chemists to continue their experiments with catalyzed materials; and it eliminates the problem of pot life.

Some catalyst materials, during the chemical reaction, generate heat which serves to reduce the baking time and temperature cycles. The catalyzed material also reduces the number of coats required and the curing time between coats.

In the DeVilbiss gun, the mixing of catalyst and resin takes place outside the air cap. In manufacturing pressure tanks, guns and hose for application of catalytic materials, DeVilbiss is using entirely new materials which will withstand corrosion or destruction from either catalyst or resin.

With many resins being highly viscous, the DeVilbiss paint heater is essential for reducing the viscosity to sprayable consistency, assuring a thorough inter-mix with the catalyst. This is a tremendous aid in controlling film thickness.

Another new field opened by catalytic materials, is application of iso-

foams which are of value in sound deadening, insulation and corrosion resistance. When iso-foam is sprayed onto a surface and catalytic action takes place, the material begins to puff out. The amount of expansion can be controlled from ⅛-in. to 2-in. Semi-rigid and rigid types have been applied successfully.

For additional information, write The DeVilbiss Co., 300 Phillips Ave., Toledo 1, Ohio.

For more data, circle 3 on colored card.

Scratch-Hardness Tester

The Hoffman tester, developed by the National Paint, Varnish & Lacquer Association, Inc., fills the need for a small instrument for testing scratch-hardness and adhesion of industrial finishes. It provides dependable determinations of the pressure on the scratching tool because the reliable lever system reduces frictional parts to one pivot.

This instrument evaluates dry finishing films and insures dependable determinations in control testing.

The Scratch Tester accompanied by a Clarkstan Microscope makes an ideal combination to give accurate data on your finish.

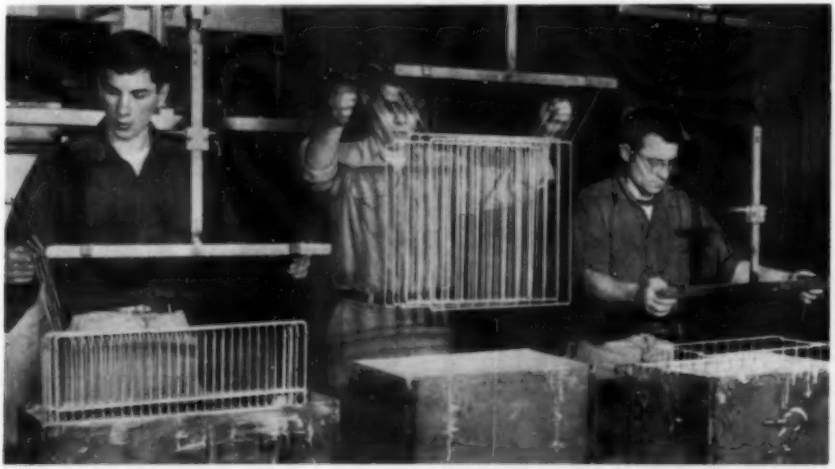
For full information, write Gardner Laboratory, Inc., 4723 Elm St., Bethesda 14, Md.

For more data, circle 4 on colored card.

Cold Dip Plastisol Is Fast and Economical

Unichrome Plastisol Compound 4129, now being applied by Peerless Wire Goods, Lafayette, Ind., to freezer baskets and shelves for two of the country's largest appliance manufacturers, makes possible considerable savings in material consumption and production time, according to D. R. Meserve, Sales Manager, Organic Coating Division, United Chromium.

Compound 4129 is a cold dip plastisol formulated by United Chromium with the necessary "flow" properties which enable it to be applied at greater speeds and in more practical thicknesses. . . . As applied by Peerless Wire Goods (in pastel shades of



Freezer baskets and shelves being dipped in Unichrome Plastisol Compound No. 4129.

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coral and light green) the plastisol offers an economical and attractive protective coating against abrasion and corrosion due to humidity, moisture and foodstuffs.

It is possible to obtain dipping speeds of 17 to 18-in. per minute on automatic conveyor equipment.

Unichrome cold dip plastisols are applied to parts at room temperature over a special primer which requires a short bake at about 350° F. Coating is quickly cured by baking at 350° F. to 365° F. for 20 to 30 minutes.

Further information may be obtained from United Chromium, Inc., 100 E. 42nd St., New York 17, N. Y.

For more data, circle 5 on colored card.

Armorhide; Deep Grain Texture

A new wrinkle finish coating with rich leather grain texture is based on Bakelite vinyl resins for endurance under the hardest wear and for a strong grip on metal surfaces. Durable finishes for interior panels of automobiles, business machine housings and other metal surfaces subjected to constant wear are made highly attractive with the deep grained texture of this coating. Wear tests show that this coating has amazing abrasion resistance. . . .

Armorhide can be sprayed on steel or aluminum in thicknesses of .002 up to .015-in. in a single operation. A patented application method devel-

A rich leather grain texture.

oped by Armitage employs a texturing agent to form the leather-like wrinkle finish. These new wrinkle finish coatings are produced by John L. Armitage & Co., 245 Thomas St., Newark 5, N. J.

For more data, circle 6 on colored card.

Silicone Lock-Seal Removes Refinish Trouble

The answer to the silicone polish problem and its effect upon refinishing wood surfaces is Silicone Lock-Seal 1x3, according to H. Behlen & Bro., Inc., 8 Christopher St., New York 14, N. Y. An application of this material seals in any traces of silicone so that *subsequent coats of finishing material will not be affected.* However, a thorough cleaning of the surface is still necessary; the use of silicone polish remover cannot be dispensed with.

After the cleaning operation, whether down to the bare wood or just surface cleaning, apply Silicone Lock-Seal 1x3, either by spray or brush. Other finishing material can then be applied in the conventional manner. Lock-Seal can be used under lacquers, varnishes, shellacs, enamels and paint.

For more data, circle 7 on colored card.

Plastisol Metal Coating

The success of the new Denflex plastisol metal coatings is attributed to a one-coat primer which bonds the plastisols to metal surfaces such as steel, copper, brass, aluminum or galvanized iron. The primer, Denflex No. 2386, is applied and after air drying about 20 minutes the specially formulated plastisol finish may be applied and baked.

Gloss and color can be supplied as desired. Desirable properties include resistance to weathering, abrasion

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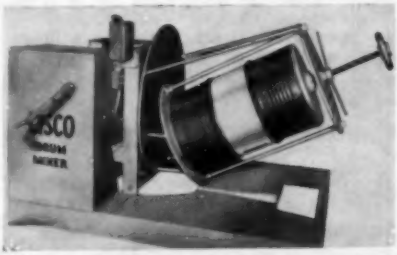
LISCO DRUM MIXER



Illustrated is a new patented design of a Drum Mixer that will thoroughly and completely agitate and mix a drum or barrel of paint, chemical or other liquid.
The Lisco Drum Mixer moves the drum circumferentially and oscillates longitudinally while being rotated. The motion generated is different than that of any other mixer.
The Mixer can also be used for mixing sweeping compound and similar dry substances as well as cleaning drums and barrels. It is ideal for use in plants carrying on varied operations.
The drum to be rotated is rolled on the frame with very little effort. It is unnecessary to use a chain hoist nor does the machine have to be mounted in a pit. The ease with which drums can be placed on the Lisco Drum Mixer appeals to safety engineers.

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"Industrial Paint Samples 'Big Deal'," price 10 cents per copy.

"Force Drying Wood Finishes", price 10 cents per copy.

"Cleaning and Conditioning Metal Surfaces for Coatings", price 20 cents per copy.

"A Half Decade of Finishing Progress," price 10 cents per copy.

"Tumble Finishing," price 10 cents per copy.

"Flow Coating as a Means of Paint Application," price 10 cents per copy.

"Stirring and Straining," price 10 cents per copy.

"A Method Engineer Analyzes Paint Selling," price 10 cents per copy.

"Preparing and Painting Metal Specialties", price 10 cents per copy.

"Flock (What it is, its appearance, its uses both for utility and decoration)", price 10 cents per copy.

"Filler, The Theory and Technique of Application", price 10 cents per copy.

"Finishing System for Magnesium", price 10 cents per copy.

"Rapid Electrostatic Finishing", price 10 cents per copy.

"Automatic Viscosity Control for Mass Production Finishing", price, 10 cents per copy.

"Paint Users' Tests; Be Fair; Get Results", 10 cents per copy.

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and corrosion; also, excellent electrical insulation. Suggested uses are for tool handles, tank linings, outdoor furniture, and air conditioner cabinets.

Complete information is available from Dennis Chemical Co., 2701 Papin St., St. Louis 3, Mo.

For more data, circle 8 on colored card.

Repair and Refinish Kit

A kit contained tools, materials and illustrated instructions for doing professional repair finishing and refinishing on fine furniture and cabinet work, is offered by Sunshine City Refinishing Projects, 3800 Maple St., N. E., St. Petersburg, Florida. It is called the Brissette Refinish Kit and is available in Deluxe and Super Deluxe models.

For more data, circle 9 on colored card.

Repair finishing is easy when . . . .

Aluminum Anti-Rust Paint

A new one-coat anti-rust aluminum paint which produces a bright finish is called "Rust-Cure XX Aluminum." This paint is made of doubly pigmented aluminum mixed with a colorless base vehicle.

It is especially well adapted for roller application on wire fences; may also be brushed or sprayed. When spread over rusty metal (tight rust) it penetrates into the surface and provides a seal against further rust action. If interested, write for Bulletin 136-11, to The Monroe Co., Inc., 10703 Quebec Ave., Cleveland 6, Ohio.

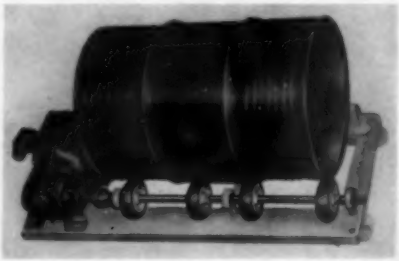
For more data, circle 10 on colored card.

Drum Rotator Mixes Paint

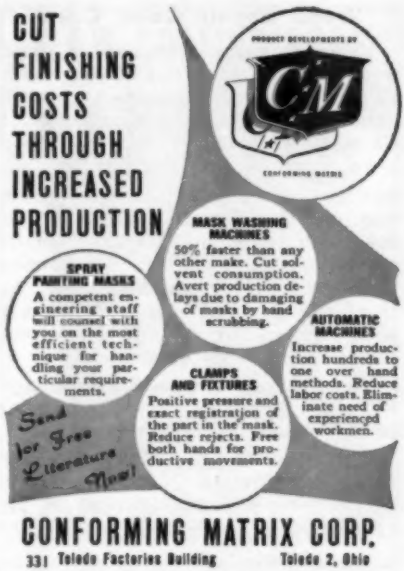
A floor model machine for rotating drums with loads up to 1000-lbs. is now available. The machine may be used for agitating, mixing and tumbling in the original container. It has idler wheels which can be adjusted for various size drums. Sealed bearings assure long life. The 6-in. diameter neoprene drive and idler wheels give adequate clearance for the largest protector rings. It occupies a floor space 24x60-in.

For complete information, ask for Bulletin 255 from Morse Manufacturing Co., Inc., 727 W. Manlius St., East Syracuse, N. Y.

For more data, circle 11 on colored card.



Occupies a floor space of only 24x30-in.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Wood Repair Color Card

Publication of a color card of paste wood-filler called Wood Repair with 12 popular wood shades and white is announced by National Casein Co. of Chicago.

The putty is in paste form, ready-to-use for repairing cavities, splits and checks in wood. When dry it takes stain and finishes under most all conditions. If the can is left open and the material hardens it may be thinned with water, a few drops at a time and worked in until the correct pliable consistency is obtained.

Wood Repair is easily sanded and machined, and has a minimum amount of shrinkage.

The color card W R-70 is made available through National Casein Co., 601 W. 80th St., Chicago 20, Ill.

For more data, circle 12 on colored card.

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One Coat Anti-Rust Paint

A black anti-rust paint, CI 88, has a bituminous base with a special paint vehicle to produce a heavy bodied coating which can be applied by brush, dip or spray *on outside metal* after a minimum of surface preparation.

The coating dries to a semi-gloss finish. One application is sufficient for most surfaces.

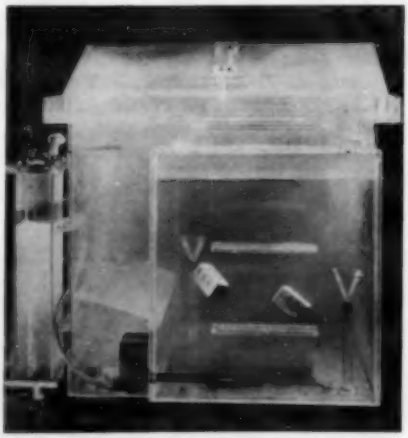
For additional information, write to Chem Industrial Co., 3784 Ridge Rd., Brooklyn 9, Ohio.

For more data, circle 13 on colored card.

New Corrosion Test Cabinet

A major scientific advance in accelerated corrosion testing of finishes and coatings is achieved by the completely redesigned Singleton "H-T Sincolite" Test Cabinet announced by The G. S. Equipment Co., 5317 St. Clair Ave., Cleveland 3, Ohio.

Clearer, "picture-window" visibility during tests is made possible by the insulating effect of flat-panel "H-T Sincolite" water-jackets hous-



"Picture window" visibility aids tests.

ing the two new electric heaters located front and rear on the outside of the cabinet. Progress of tests can be observed through these water-jacket "picture windows" without opening the lid, interrupting the process or handling specimens. This offers a special advantage in short tests of black oxide finishes and other less-protective coatings.

More uniform temperatures are maintained throughout. Danger of "hot bottom" is eliminated which would ordinarily cause vaporizing of contaminated condensate on the cabinet floor.

According to the manufacturer, these new accuracy-factors are enabling users to claim "all test results within 10% of absolute duplication." For operating convenience, all controls are now located at the left end.
For more data, circle 14 on colored card.

Dustless Mineral Shot for Blast Cleaning

A non-metallic, dustless blast cleaning agent (substantial savings in production time, material cost and equipment maintenance) is announced by the Baldwin-Hill Co., Trenton, N. J. Called Mono-Kleen, the spheri-

Spraying new kind of blast cleaning agent.

FLOW COATING BOOK

Mr. Zahn, the author of "Flow Coating", says that any product which can be dipped or sprayed can be finished by the flow-coat method. His new book contains 296 pages 5¼x7¾-in.; 13 chapters.

The great range in new kinds of solvents now available, plus phenolic-base resin paints and vinyl type paints which have been so successful in the flow-coating method of application, presents endless possibilities for profit. The industrial user can now afford to pay a little more for better materials and profit by a higher quality product.

"Flow Coating" explains the various industrial painting methods such as: dipping, spraying, electrostatic, steam, roller coating, centrifugal, hand spraying, automatic dip and many others. Direct comparisons between flow coating and these methods are dealt with in detail.

Mr. E. A. Zahn has spent 25 years in research on industrial paints and application methods. He is the inventor of the Zahn Viscosity Cup, and has acted as consultant to many manufacturing concerns. In 1938 he received the Charles A. Coffin award for contributions made to the electrical industry. Mr. Zahn has been associated with General Electric for 25 years and is at present Organic Finishing Engineer at General Electric's Appliance Park, Louisville, Ky.

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cal mineral shot blast cleans uniformly in one pass with no dust clouding the operator's vision and leaving the surface free of grime, film and dust.

The mineral shot can be reclaimed and reprocessed for use again.

For more data, circle 15 on colored card.

Spray Metallizing, High Luster on Plastics or Metal

Spray metallizing, a new process, produces a hard, durable, high luster finish requiring no treatment beyond the protective coating. An excellent substitute for plating, this type of coating process reaches down into the deepest undercuts.

A few items coated by spray metallizing.

The resulting top coat may be left clear with a rich silver chrome appearance, or may be dyed gold, brass, copper, or one of many other metallic colors suited to the product.

In addition to standard finishing room equipment, all that is required is a spray metallizing booth, plus a few specialized accessories for it.

The spray metallized surface will stand 200 hours at 120° F. in 100% humidity and sulphur atmosphere with no loss of adhesion, or tarnish.

For additional information, write Jema Chemical & Supply Co., 191 South St., Newark 5, N. J.

For more data, circle 16 on colored card.

Rust Preventive "Storage" Coating

New rust preventive fluids for coating metal parts before storage can be burned clean (in a "burn-off oven") after storage. These coatings, "Ucon," do not leave residues (after burning off) to interfere with painting, welding, soldering or brazing. They can also be removed with solvents or metal cleaning compounds.

Ucon coating fluids are products of Carbide & Carbon Chemicals Co., and are available in several viscosity grades. They have neglible solvent or swelling effects on various types of rubber. Coatings may be used diluted or undiluted.

Technical information is available from Carbide & Carbon Chemicals Co., a division of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.

For more data, circle 17 on colored card.

Portable Infrared Motion Drier

From West Germany comes word of a new portable paint and enamel drier which produces both short and long infrared waves at high density of energy. The drier has a special quartz tube coil and a hot air blower to give maximum drying efficiency. The operator holding the disc-like drier may use penduluu or rotary motion, and vary the distance of the drier may use pendulum or rotary moas the drying time to suit the type

Using the drier on spot touch-up painting.

of finishing material used and thickness of the metal.

For additional information, write W. & Dr. K. Brechenmacher, 38 Wasenstrabe, Stuttgart-Wangen, Germany.

For more data, circle 18 on colored card.

New Waterproof Sandpaper

Two new super-tough, very fine waterproof sandpapers are announced by Behr-Manning Corp., Troy, N. Y.

Developed especially for the wet sanding of lacquer finish coats, the new silicon carbide grain papers are additions to the Tufbak series originally introduced in 1952 in grades 220-A to 400-A. The characteristic flexibility, toughness, durability, and leathery feel of the coarser grades of this brand of sandpaper have been retained. Behr-Manning claims an outstanding uniformity of grain for such fine grades of coated abrasives.

For more data, circle 19 on colored card.

Filters Industrial Fluids

Continuous full flow filtration of coolants, cutting oils and numerous industrial fluids is accomplished in less floor space with the Delpark Roto-Gravity Filter. Major features are a permanent type filter screen for removal of particles to .002-in. in size and large flow capacity.

Unit is self cleaning through reverse flush principle operating on a time lapse sequence. Residue thus cleaned from bar stock type screen is removed by chain driven flights.

Tanks of special design and application are available. The Delpark Roto-Gravity Filter requires attention only for removal of residue and sludge from the tote box under the carry-off shelf.

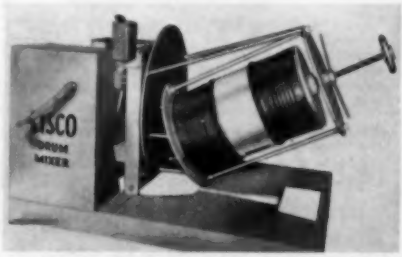
For further information, write to George L. Guymon, Vice-President and Director of Sales, Industrial Filtration Co., Dept. R-318, Lebanon, Ind.

For more data, circle 20 on colored card.

Agitating Drum Mixer

A motor-driven "drum mixer" that gives the drum a combination of different motions, (rotating, oscillating, tilting, etc.), to thoroughly mix its contents, is offered by Lansing Industrial Sales Co., 2301 W. Main St., Lansing, Michigan. Heavy drums are easily and safely put into and removed from the machine.

The machine can be used for mix-



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through better finishes

Here is a book that answers all the questions on finishing metal products and shows the methods, techniques, and cost factors in producing them.

FINISHING METAL PRODUCTS

New Second Edition describes all recent developments in this field.

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A COMPLETE PRACTICAL MANUAL covering usual types of finishing—galvanizing, polishing, plating, lacquering, painting. Also discusses fully such subjects as use of color and production and use of prefinished materials.

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EXPLAINS SHOP TECHNIQUES. Tells how to reduce polishing and buffing costs. Gives techniques for cadmium plating, chromium plating, spray coating. Tells how to use enamels and lacquers in metal parts production.

This up-to-date, handy manual should be at the finger-tips of plant managers, superintendents and foremen. Send your remittance today to

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ing dry or liquid materials in drums or for agitating the contents of a drum to stir up and mix in settled pigment, or for cleaning the interior of a drum.

For more data, circle 21 on colored card.

Produces Blond Finish Without Bleaching

"Decoralite" gives a bleached effect without bleaching on dark cabinet woods like mahogany, walnut, etc. It may be used on all types of woods.

In this new material the finely ground special colors and pigments are blended with their crystal lacquer base to give original color retention and to allow the grain of the wood to show through the finish.

Many pleasing effects are obtained on various woods with Decoralite. After fine sanding the wood is finished out with clear crystal water white sealer, followed by crystal water white lacquer. All of the materials are offered by The Schaefer Varnish Co., Inc., 15th & Magnolia, Louisville 10, Ky.

For more data, circle 22 on colored card.

Joins Flex-I-Line Conveyor as National Sales Manager

Commander David A. Black, USNR, has been appointed National Sales Manager for Flex-I-Line Conveyor Corp., 23550 Park Ave., Dearborn, Mich. Black, a graduate of the University of Michigan in 1938, returned to civilian life following 13 years of Naval service. Flex-I-Line Conveyor Corp., manufactures a line of overhead industrial conveyors using cable segments between the trolley brackets, and featuring a one-piece trolley bracket.

David A. Black

Glidden Co. Appoints Forbes

Appointment of George S. Forbes as field manager for The Glidden Co.'s national industrial sales is announced by the firm's Paint Division.

Mr. Forbes, along with Thomas N. Armel, Glidden's General Manager of Industrial Sales, will supervise all phases of Glidden's important industrial coating business, industrial maintenance sales, and transportation business, including railway, aircraft, and marine finishes.

E. Melvin, Jr., Directs Ind. Sales for Haeuser Shellac Co.

Edward W. Melvin, Jr., has been placed in charge of industrial sales for Haeuser Shellac Co., Inc. (importer, bleacher, manufacturer), Brooklyn, N. Y.

Mr. Melvin has been associated with the paint, plastic, ink and allied industries since his release from military service. For the past five years he was with a large company as sales manager.

Sennett to Allied Research

Harry L. Sennett has joined Allied Research Products, Inc., Baltimore manufacturer of the Iridite line of chromate conversion coatings, as sales engineer. He was formerly a sales engineer with the metal finishing division of Allied Research. Mr. Sennett will coordinate specification activities with various government agencies responsible for specification of chromate coatings.

Asst. V.P. of Cook Pt. & Varn.

Robert F. Liepsner has been elected to the office of assistant vice-president of the Cook Paint & Varnish Co., Kansas City, Mo.

Liepsner started with Cook's in June, 1935, as a student chemist. He progressed through the Cook laboratories to the architectural sales department. Following sales activities in Cook's St. Louis division, Liepsner was made assistant industrial sales manager in Kansas City.

Navicote Marine Finishes

The Weeks-Howe-Emerson Co. of San Francisco, one of America's oldest and most active ship chandlery firms, has been appointed distributors of Navicote marine finishes, according to an announcement by Vice President Earl Huston, Jr., of Hart & Burns Co., Division of Devoe & Raynolds Co., Inc. Customer parking facilities are provided for W-H-E customers inside the building at 645 Howard St.

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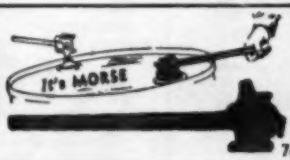
Instantly loosens, tightens 95% all plugs or bungs in steel drums. Has 16" extra-strong steel tubing handle. Wgt. only 2 lbs.
Order 1 or more today!


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SATISFACTION GUARANTEED..... $3.30
Non-Sparking type.....$5.10
Plus Parcel Post
MORSE MFG. CO., Inc.
763 W. Manlius St., E. Syracuse, N. Y.

This last edition is an excellent text and reference book of 758 pages, containing a tremendous amount of authentic and complete information on industrial solvents and their uses—for example, in cleaning and finishing materials and wherever solvents are used in industry. The revised contents are organized and classified in easy-to-read, easy-to-find form for practical busy men.

Its practical contents are divided into 16 chapters, some of which include such headings and sub-headings as solvents, non-solvents, evaporation rate, boiling point, flash point, toxicity, viscosity, safe handling, hydro-carbon solvents, alcohols, ketones, acids, ethers, esters, etc. It contains many new charts, illustrations and conveniently tabulated material, all developed to help the reader grasp the factual information quickly. The alphabetical subject index covers 11½ pages.

This book will prove valuable to key men in the industrial field, who have responsibilities in connection with the cleaning, surface conditioning or preparation of products for painting, plating or polishing, and those concerned with the selection, purchase, storage, handling, testing or use of finishing materials and thinners for same.

Price $12.00—Money Back Guarantee.

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Central P. & V. Opens Plant in Philippine Islands

Central Paint & Varnish Works, Inc., 59-69 Prospect St., Brooklyn 1, N. Y., manufacturer of products for protection and decoration since 1919, announces the start of operations of its new and fully equipped plant in Manila, Philippine Islands.

Coincident with this, Central announces the projection, planning and blue-printing of a new plant to be in operation in Teheran, Iran before the end of 1955, to serve the Middle East countries of Syria, Lebanon, Israel, Saudi-Arabia, Egypt, Iraq, Afghanistan and Iran.

Berkley Co. (Penna.) Purchases Kline-Bresler of Reading

The Berkley Co., Inc. (Mfr. of lacquers, enamels, thinners) has acquired all the assets of Kline-Bresler, Inc., of Reading, Pa., and will move the entire operation to a new $90,000 plant now being built on Route 222 in Akron, Pa. The plant will feature a highway sales outlet in conjunction with the factory.

Kline-Bresler personnel will be retained including George A. Bresler, who will become chief chemist for the combined units. His 26 years experience will benefit the accounts and prospects of the younger company.

American Buff's Research Div'n.

American Buff Co., Chicago, announces the appointment of Stanley P. Sax, as Director of Research in charge of Process and Product Development.

A complete, new laboratory has already begun to conduct exhaustive tests to determine the physical characteristics of various metals and the types of buffs most suitable for each. All buffing problems will now be referred directly to American Buff's Research Division.

Adelphia P. & C. Appoints 4 Men

Adelphia Paint & Color Works, Inc., Ozone Park, N. Y., announces the appointment of four new Adelphia representatives. Mr. Murray Levy, Brooklyn and Long Island; Mr. Chester Rockfield, Central Ohio; Mr. William Lowe, Eastern and Central New York State; and Mr. Paul Binckley, Central Pennsylvania.

The appointments are in line with an expansion program.

For Your Convenience

Use INDUSTRIAL FINISHING magazine's "Reader Service" return cards to obtain further information on products described and illustrated in the "Materials; Supplies; Equipment" section which precedes this page; also, to receive manufacturers' literature — booklets, catalogs, circulars — as mentioned on the following pages.

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Manufacturers' Literature

Iron Phosphating on Steel. A 12-page booklet entitled "How to Apply Iron Phosphate Coatings to Steel in Preparation for Painting," points out that the selection of various phosphate treatments depends upon the purpose for which the article is intended. It tells how the process cleans and phosphates at the same time; adds luster to the finish, which also has less tendency to chip or flake; protects against corrosion; saves paint and saves money, because it has long life in solution, and reduces the number of steps in the pre-paint conditioning job.

Copies of this booklet are available free of charge from Oakite Products, Inc., 122F Rector St., New York 6, N. Y. Write on company letter head.

For more data, circle 23 on colored card.

Cabinet Ovens. Bulletin 10-S illustrates and describes a wide range of standard cabinet ovens for use with gas, electric or steam heat, involving temperatures up to 500° F.

Copies of Bulletin 10-S may be obtained by writing to Young Brothers Co., Dept. E, 1831 Columbus Road, Cleveland 13, Ohio.

For more data, circle 24 on colored card.

Chromate Finishing Data. Allied Research Products, Inc., has just issued a colorful file of technical literature on Iridite Chromate Conversion Coatings for prevention of corrosion and paint-base treatment of non-ferrous metals. The brochure consists of a handy standard-size file folder with eight dividers classifying data by 1) general information, 2) metal to be treated and 3) finishing processes. In addition to the basic file, detailed "Technical Information" sheets for insertion in these sections offer general technical and government specification data of value to finishers, and specific operating instructions for individual processes. Copies may be obtained by writing the company's home office at 4004 E. Monument St., Baltimore 5, Maryland.

For more data, circle 25 on colored card.

Ideal Tack Rags are used prior to painting, to wipe off and hold dust, dirt, sand particles and lint too small to see, but which might leave a blemish or defect on the final coat of paint or finish. For more information, contact Ideal Chemical Co., 1499 Dean Drive, South Euclid 21, Ohio.

For more data, circle 26 on colored card.

Finishing Oven Efficiency is the title of an 8-page (8½x11) bulletin being offered by the Michigan Oven Co., 4544 Grand River Ave., Detroit 8, Mich. It contains six interesting case histories on unique finishing oven installations. Additional information is available on all of these case histories.

For more data, circle 27 on colored card.

Industrial FINISHING

April, 1955, Issue

READER SERVICE DEPARTMENT

Without obligation, please see that we receive the manufacturers' literature identified by the number or numbers, circled on this card:

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89	90																				

Signed.....*Title*.....

My company's name.....

Street Address.....

City.....*Zone*.....*State*.....

Conveyorized Furniture Finishing. A free illustrated book on this timely subject is offered by DeBurgh Conveyors, Inc., 1741 K St. N.W., Washington, D. C., and 10 S. 11th Ave., Evansville, Ind. The company refers to its conveyor system as one "designed by a furniture man for furniture men," and claims not only spacesaving but improved quality of finishes.

For more data, circle 28 on colored card.

Heat Engineering. Brief illustrated answers to the question, "What Does Ross Engineering Do?", are presented in an 8-page bulletin published by J. O. Ross Engineering Corp., 444 Madison Ave., New York 22, N. Y., and six other large U. S. cities. The company designs, manufactures and installs industrial air systems, and has more than 2000 "name companies" among the users of its products.

For more data, circle 29 on colored card.

Color Difference Meter. Information about the Munsell-Reading Color Difference Meter, for rapid and direct determination of hue, value and chroma, can be obtained from Gardner Laboratory, Inc., Bethesda 14, Md.

For more data, circle 30 on colored card.

Dipping and Flo-Coat equipment are included in the industrial engineering line offered by Granco, Inc., 317 32nd St. S. W., Grand Rapids, Mich. An 8-page (8½x11-in.) illustrated bulletin illustrates and briefly describes the present line.

For more data, circle 31 on colored card.

Thinners, Reducers, Retarders, regular or specially formulated to meet any specification for lacquers and synthetics, are offered by Eli-Bee Chemical Co., Inc., Hanover, N. J. Uniform quality is a feature of these materials. Technical and sales information is available.

For more data, circle 32 on colored card.

Contour Masking to enable an operator to accurately spray paint the desired parts of intricate designs and lettering which may be raised or sunken, is explained and illustrated in literature offered free by Duggan Masking Devices, 2030 W. Fort St., Detroit 16, Mich.

For more data, circle 33 on colored card.

Painting Specs and Color Charts. A new painting specifications and product guide (28 pages 8½x11) featuring a 2-page Selector Chart for correct matching of all types of maintenance finishes to surfaces, has just been published by The Glidden Co., 11005 Madison Ave., Cleveland 2, Ohio.

Designed as an aid for making quick, easy selections of maintenance finishes for any type of job, the new Glidden guide incorporates four full pages of color samples, including the firm's complete line of pigmented wiping stains on simulated wooden chips.

Another feature of the new guide is a section concerning surface preparation.

For more data, circle 34 on colored card.

Rollacoating automatically meters a controlled amount of finish over the entire area of each piece, insuring complete rolled-on coverage without waste.

How a manufacturer of metal signs lowered his finishing costs and increased his enamel coverage by one-third is the subject of a new case history report issued by Gasway Corp., 6465 N. Ravenswood Avenue, Chicago 26, Illinois.

For more data, circle 35 on colored card.

Flaw Location by Dye Penetrants is the title of a 12-page booklet recently issued by Turco Products, Inc., 6135 S. Central Ave., Los Angeles 1, Calif. It describes the Turco Dy-Chek inspection method and offers suggestions on how to perform inspections on any metal by the dye penetrant method.

For more data, circle 36 on colored card.

Drum Mixer; Stirrer. A new type-L mixer, air motored for use in drums and smaller containers is illustrated and described in Bulletin 531, offered by Conn & Co., 11 S. Marion St., Warren, Pa.

For more data, circle 37 on colored card.

Bonderite for Galvanized iron and steel. An improved phosphate treatment (Bonderite 37) for hot-dipped galvanized iron or steel surfaces overcomes former difficulties. Parker Rust Proof Co., 2174 East Milwaukee Ave., Detroit 11, Mich.

For more data, circle 38 on colored card.

Paint Circulating Systems. The Graco Powerflo 452 catalog illustrates and describes new Powerflo pumps, circulating systems and equipment designed for spraying liquids, semi-liquids or semi-solids used in production, construction and maintenance. For a copy, ask the Gray Co., Inc., Graco Square, Minneapolis 13, Minn.

For more data, circle 39 on colored card.

Re-Usable Containers. Peters-Dalton, Inc., 17900 Ryan Road, Detroit 12, Mich., has published a 16-page brochure (Technical Bulletin No. 601) under the title of

Re-Usable Containers and Special Products. This 2-color booklet completely describes how many advantages can be gained by packaging, storing and shipping industrial materials in scientifically constructed re-usable metal containers. This brochure also reveals the many engineering and production facilities provided by P-D for fabricating special products to meet the customer's specifications and high standards.

For more data, circle 40 on colored card.

Pre-Cut Protective Mask Bulletin No. 160-C has six pages of suggestions and illustrations on time saving, cost cutting methods of masking before finishing. Sample masks too, if you write W. H. Brady Co., 727 Glendale Ave., Milwaukee 12, Wisc.

For more data, circle 41 on colored card.

Industrial Safety Equipment. A new general catalog (64 pages 8½x11-in.) is available from Willson Products, Inc., Reading, Penna. Eye protection, head protection and respiratory protection. All who have an interest in industrial safety will find this new catalog a reference book of great interest and value.

For more data, circle 42 on colored card.

Dust, Fume Control for paint spray booths, ovens, etc. A 16-page (8½x11-in.) bulletin, with many illustrations, is offered by Young & Bertke Co., 2250 Buck St., Cincinnati 14, Ohio.

For more data, circle 43 on colored card.

Rubbed-Effect Clear Finish for furniture and fine cabinet work; tough, elastic, durable; liquor proof; water proof; called "Perfex Satin Finish" and is offered by Perfection Paint & Color Co., Indianapolis 2, Indiana.

For more data, circle 44 on colored card.

Hot Spray gives complete one-coat coverage; faster drying; tough glossy finish; increased paint mileage, etc. More facts offered by The DeVilbiss Co., Toledo 1, Ohio.

For more data, circle 45 on colored card.

Push Button Painting. An informative brochure on areosol paint is offered free by Sprayon Products, Inc., 2075 E. 65th St., Cleveland 3, Ohio. The booklet contains answers to common questions about self-spraying paints and tips on getting the most out of "push-button painting." It covers the subject from "What Makes It Spray?" to questions of color change. The brochure was prepared by the research department of Sprayon Products, Inc., one of the oldest areosol custom-loading firms and the first to put nitrocellulose lacquer into a successful areosol dispenser.

For more data, circle 46 on colored card.

Solvents and Chemicals in quantities ranging from only one drum to a full tank car. Materials used in finishes and cleaners. The Solvents & Chemicals Group, 2540 W. Flournoy St., Chicago 12.

For more data, circle 47 on colored card.

Roller Coat Enamel, for sheet metal strips and sheets which are to be cut and formed later, must have excellent adhesion to stand stretching and drawing of thin metal; must be tough, flexible and durable. Ask for more information about Dulux Roller Coating Enamel by writing to E. I. duPont deNemours & Co., Inc., Finishes Div'n., Room 7010, Dept. IF-54, Wilmington 98, Dela.

For more data, circle 48 on colored card.

Pan-L-Heat Ovens are all-electric, clean, efficient, economical; used by many "name companies." A free 16-page brochure tells how they increase production and cut maintenance costs. Jensen Specialties, Inc., 9352 Freeland Ave., Detroit 28, Mich.

For more data, circle 49 on colored card.

Flow Coating—complete finishing systems for wood or metal, including conveyors, and standard or special oven baking facilities if or when desired. Write for Brochure J-7F. George Koch Sons, Inc., Evansville 4, Ind.

For more data, circle 50 on colored card.

Baked Finishes for metal products; excellent adhesion; smooth in flow-out; bright in color; lustrous and durable. The Sherwin-Williams Co., General Industrial Div'n., Cleveland 1, Ohio.

For more data, circle 51 on colored card.

Custom Metal Finishes formulated to meet difficult and unusual requirements. Cincinnati Varnish Co., Cincinnati 12, O.

For more data, circle 52 on colored card.

Fixed Damaged Finishes. Everything needed, including instructions, are in Refinishing Kit offered by Brissette, 3800 Maple St., N. E., St. Petersburg, Florida.

For more data, circle 53 on colored card.

Lacquer Thinners, developed and formulated to meet each one of a variety of industrial conditions and requirements. Barker Chemical Co., 700 E. 138th St., Chicago 27, Ill.

For more data, circle 54 on colored card.

Stains, Fillers, Sealers, plus all other materials needed for finishing fine furniture and cabinet work are offered by The Gilbert Spruance Co., Philadelphia 34.
For more data, circle 55 on colored card.

2 or More Colors in One Coat. Multakolor bonds firmly to various prepared surfaces; gives excellent resistance to abuse; offers an attractive finish and is available in 30 stock combinations. United Lacquer Mfg. Corp., 1001 W. Elizabeth Ave., Linden, N. J.
For more data, circle 56 on colored card.

Metal Finishes, formulated for special requirements, are offered by Watson-Standard Co., 225 Galveston Ave., Pittsburgh 30, Penna.
For more data, circle 57 on colored card.

Catalyzed Synthetic Wood Finishes produce films unaffected by boiling water, liquor or alcohol; will not cold check, print or pad mark. The Lawrence-McFadden Co., 7430 State Road, Philadelphia 36, Penna.
For more data, circle 58 on colored card.

Wood Graining, as many as 400 assembled cabinets a day; vertical roller; automatic machine. Hamant Tool Co., Inc., 2916 E. Second St., Dayton 3, Ohio.
For more data, circle 59 on colored card.

Masked Spray Painting—that is, accurately painting certain decorative effects through close fitting, no-leak masks, on a mass-production basis. Information about this and about automatic machines, clamps, fixtures, mask washer, etc., offered by the Conforming Matrix Corp., 331 Toledo Factories Bldg., Toledo 2, O.
For more data, circle 60 on colored card.

Graining Plates for use in all kinds of machine and hand graining operations. American Richwood Products Co., 104 E. Mason St., Milwaukee 2, Wis.
For more data, circle 61 on colored card.

Paint Mixer. A machine that rapidly and violently shakes the container of paint to thoroughly mix its contents. Sizes ¼-pint to 55-gallon drums. Miracle Paint Rejuvenator Co., 128 E. 10th St., St. Paul 1, Minn.
For more data, circle 62 on colored card.

Sander Discs for use on portable power disc sanders and grinders, used for grinding down and smoothing off metal surfaces preparatory to painting; coarse, medium and fine grit; aluminum oxide abrasive grain bites into metal fast. The Carborundum Co., Dept. IF 82-52, Niagara Falls, N. Y.
For more data, circle 63 on colored card.

Edited only for men who select, buy and use organic finishes and equipment for product coating . . .

Industrial Finishing is written for company officials, production superintendents, paint shop and finishing department foremen concerned with the use of organic finishes and finishing equipment for product coating. Articles present new information on materials, equipment, supplies and methods developed for and used in the application of product coatings. They are prepared by the editor, traveling associate editor, and more than 100 regular contributors. *Industrial Finishing* carries more editorial devoted to organic finishing than any other finishing publication.

With a monthly circulation of more than 15,000 copies, the publication enjoys readership in all parts of the world. For instance, more than 1,000 copies are directed to individuals and companies in Canada and other foreign countries. Many letters from readers in foreign countries are received almost daily, and several men have called at our offices when visiting in the United States.

Tack Cloths or Rags are really special tacky wiping cloths for wiping surfaces clean before applying any coating material. The tack cloth picks up and retains any dust that may be present; doesn't release it to fly into the air and alight on wet finish. Detro Mfg. & Sales Co., Inc., Culver City, Calif.

For more data, circle 64 on colored card.

Industrial Finishing Show in Public Auditorium, Cleveland, Ohio, June 20-23. For information write to Harold E. Bartlett, 1955 Industrial Finishing Exposition, % American Decorating Co., 1849 W. 24th St., Cleveland 13, Ohio.

For more data, circle 65 on colored card.

Decorative Finishes — protective and durable too—for metal, plastics, wood, etc. (for roller coating also). Rockford Varnish Co., Rockford, Ill.

For more data, circle 66 on colored card.

Pearl Essence Finishes—What they are and how to use them; a free technical bulletin offered by Argenta Products Co., Eastport, Maine.

For more data, circle 67 on colored card.

Drum Plug Wrench instantly loosens or tightens 95% of all plugs or bungs in steel drums. Morse Mfg. Co., Inc., 763 W. Manlius St., East Syracuse, N. Y.

For more data, circle 68 on colored card.

Speedip Whirl Enameler for coating small parts (metal or wood) in bulk; combines fast power dipping and spinning. Ronci Machine Co., 2 Atlantic Blvd., Centredale 11, R. I.

For more data, circle 69 on colored card.

Corrosion-Resistant Primer for metal lawn furniture and many other durable finishes contain Epon Resin. The story is in a free brochure, "Planning to Paint a Pyramid?" Shell Chemical Corp., 380 Madison Ave., New York 17, N. Y.

For more data, circle 70 on colored card.

Ovens for Curing, Drying, Baking; batch and conveyor ovens for various industrial applications are described and illustrated in Bulletin 4 offered by Young Brothers Co., 1835 Columbus Rd., Cleveland 13, Ohio.

For more data, circle 71 on colored card.

Spray Booths designed and engineered to meet exacting requirements; also washers, ovens and air moving equipment for safety, cleanliness, efficiency and economy, are offered by Schmieg Industries, Inc., 23930 Sherwood, Center Line, Mich.

For more data, circle 72 on colored card.

Cleans Metal Parts rapidly, efficiently and economically, according to the story offered by Industrial Systems Co., Matawan, N. J.

For more data, circle 73 on colored card.

Metal Cleaning Booklet Free. Explains and illustrates a variety of methods and equipment for cleaning metal surfaces rapidly and economically. 44 pages. Write to Oakite Products, Inc., 32F Rector St., New York 6, N. Y.

For more data, circle 74 on colored card.

Thinners for Lacquers, formulated to suit customer's needs. Free sample offered by Potter Paint Co., Inc., Cortland 1, New York.

For more data, circle 75 on colored card.

Clear Baking Lacquer for gold, brass and bronze; resistant to water, alcohol, brief flame. A product of Agate Lacquer Mfg. Co., Inc., 11-13 43rd Rd., Long Island City, N. Y.

For more data, circle 76 on colored card.

Multiple Drum Cleaner. A machine for rotating and rocking as many as four drums at a time to shake up their contents or to clean their interiors. The Vol-U-Meter Co., P. O. Box 54, Buffalo 16, New York.

For more data, circle 77 on colored card.

Silk Screen Process supplies, including colors, screens, drying racks, conveyors; also roller coaters, flock and adhesives. Write for free catalog to Advance Process Supply Co., 1442 W. Kinzie St., Chicago 22, Ill.

For more data, circle 78 on colored card.

PL-24 Air Filters admit only clean air to vital finishing areas, so the finish produced can be perfect. Bulletin 230 describes and illustrates them. American Air Filter Co., Inc., 210 Central Ave., Louisville 8, Ky.

For more data, circle 79 on colored card.

Complete Finishing Systems — metal cleaning and rust proofing; dry off oven; cooling tunnel; flow coat, dip or spray; oven baking, cool off; filtered air supply —engineered, installed and made to work efficiently and economically by The R. C. Mahon Co., 6565 8-Mile Road, Detroit 34, Mich. Write for Catalog A-655.

For more data, circle 80 on colored card.

Silicone Lock Seal 1x3 used according to directions, prevents trouble in refinishing silicone polished furniture, cabinets, etc. H. Behlen & Bro., Inc., 8 Christopher St., New York 14, N. Y.

For more data, circle 81 on colored card.

Flash Primer, followed by top coat enamel and both baked in one pass through oven. Send for free booklet on "Corrosion—What Causes It? What to do About It?" Interchemical Corp., Finishes Div'n., Newark 1, N. J.

For more data, circle 82 on colored card.

Pump Finishes From Mixing Room directly to points of application; it's safer and it saves time, labor and extra handling of material. Write for free idea book to Alemite, Dept. L-45, 1830 Diversey Parkway, Chicago 14, Ill.

For more data, circle 83 on colored card.

Synthetic Reducers and lacquer thinners formulated to meet special requirements and conditions . . . . with technical assistance offered. American Lacquer Solvents Co., Phoenixville, Penna.

For more data, circle 84 on colored card.

Fast, Complete Stripper strips off epoxy baked coatings, enamels, primers, etc., quickly, effectively and economically; non-inflammable; non-toxic; no heat; no electric current. Allied Finishing Specialties Co., 2641 W. Grand Ave., Chicago 12, Illinois.

For more data, circle 85 on colored card.

Tack Cloth (three different kinds of cloth) in 150-yard rolls, in cartons and packed individually in glassine envelopes, is offered by Bond Chemical Products Co., 2641 N. Clybourn Ave., Chicago 14, Ill. Sample sent on request.

For more data, circle 86 on colored card.

Pearly Iridescence. "Narcomer", added in small quantities, to transparent dyes and clear lacquers, imparts permanently attractive effects. It can be added to finishing materials for metal, plastic, leather, paper or wood. A demonstration sample is offered by The Mearl Corp., 153 Waverly Place, New York 14, N. Y.

For more data, circle 87 on colored card.

Peel-off Coatings for protection of fine finished surfaces during packing, handling, shipment and temporary storage are offered by Sprayiat Corp., 1 Park Ave., New York 16, N. Y. Sprayiat SC-1071B produces a tough elastic coating which is protective during handling, and can later be peeled off to expose the perfect original finish of the article.

For more data, circle 88 on colored card.

Faster Finishing and Fewer Rejects are included among the results of DeBurgh Conveyorization in cabinet and furniture finishing rooms, according to the installation experiences of DeBurgh Conveyors, Inc. Detailed information is offered by the company at either of two addresses, 10 S. 11th St., Evansville, Ind., or 1741 K St., N. W., Washington 6, D. C.

For more data, circle 89 on colored card.

Custom TV Cabinet Finishes. Tough, mar resistant, in soft new decorative color combinations to match any custom specifications. Grand Rapids Varnish Corp., Grand Rapids 2, Mich.

For more data, circle 90 on colored card.

Worker's Attitude—or Lack of Knowledge

As every foreman in the finishing department well knows, few problems can be more annoying than that of the un-cooperative employee. He may measure up to the minimum requirements, but still fall short of giving the best efforts of which he is capable.

Before deciding that such a case is hopeless, it is well to try and find out whether the supposedly un-cooperative person may be still "unsold" on the plans and procedures he should follow. Or possibly he does not fully understand certain points, or reasons back of them. When more detailed explanations clear up the difficulty, then the undesirable attitude may disappear.

Written bulletins for each individual worker can help tremendously. Without pointing to any particular employee, important information gets to the right people—and the review of facts will serve as a reminder for the others as well.

Especially following discussion periods, bulletins not only aid in putting all details in permanent form but also prevent the un-cooperative worker from ignoring decisions not to his liking by claiming some matters were not clear or that he (conveniently) forgot.

An un-cooperative man may be worth saving, once he has been told in definite terms that his employment depends upon his abiding by accepted routines in the finishing department.

Industrial FINISHING Editorial

What A Ford Man Says About Automation

"The automatization of American industry has been going on for a long time and will continue slowly but steadily", according to R. H. Sullivan, vice president and group executive of Ford Motor Co.

Mr. Sullivan, addressing a meeting recently in New Orleans, reminds us that where once we had two, three or eight separate man-operated machines, we now have a single multi-purpose machine that operates automatically.

Articles are moved automatically from one operation to another, mechanically turned, mechanically removed, and so on. In the process, a considerable amount of direct labor, often of a laborious nature, has been eliminated.

The benefits of this system, Mr. Sullivan emphasized, are four-fold:

"First, it has enabled us to provide safer and healthier working conditions for our employes.

"Second, we are getting better quality.

"Third, it has resulted in lower production costs.

"And finally, we have been able to utilize our machines more fully and effectively."

From the technical standpoint, he said, increased emphasis on preventive maintenance and development of better machine tool control systems have been necessary.

"While automation may reduce the direct-labor force in a given plant", he stated, "it increases greatly the demand for skilled maintenance and repair technicians. From the standpoint of the worker, automation will not eliminate jobs; it will supplant heavy, dangerous and unpleasant work with easier, more skilled, more pleasant and interesting jobs.

"We believe", he declared, "that automation is part of a tremendous force operating in the American economy to the benefit of all elements of our society. That force is productivity, and it means more and better goods for the consumer and more and better jobs for our workers."

Too Many High-Loss Fires in Factories

In one recent year there were 300 large-loss industrial fires; that is, fires that destroyed or damaged property worth $250,000 or more. In that same year there were nearly a million other fires in the United States, yet the 300 large fires accounted for 23% of the nation's fire loss for that year of $785 million.

This is difficult to understand in view of the fact that it is usually the large plant that has sprinkler systems and automatic CO_2 systems in and around particularly hazardous areas. Usually the large plant has strictly enforced rules on waste disposal, against smoking in critical areas, maintenance of fire extinguishers and a trained fire fighting brigade.

The National Board of Fire Underwriters, 85 John St., New York 38, N. Y., has prepared a brochure, "The Big Industrial Fire; Your Problem," that deals with this subject, and is distributed to those interested.

It is not intended to overemphasize the importance of fire loss in large industrial plants, for the loss to the small plant is proportionately just as great. Anything that can be done to prevent fire, or to keep small fires small in a plant of any size is truly worth while.

Goodbye, Old Paint.... New Materials Better

New types of paint are available for almost any surface. Development of improved coatings has paralleled the introduction of plastics raw materials. As these new resins have been introduced they have been adopted for use in paints. In 1953, 25% of the total synthetic resin production was used in coatings.

Important types of coating materials are alkyds; phenol-melamine-, and urea-formaldehyde resins; and polyvinyl resins. Chemical cellulose—a basic raw material for rayon, acetate, cellophane, and photographic film—is used in large quantities in the manufacture of synthetic lacquer. Styrene, most familiar to consumers in brightly colored household and novelty products, is used in large quantities in the popular latex paints and in smaller proportions in other new types.

Non-flammable water-thinned enamels for use on some industrial products are now available, but for the products made of steel, problems of corrosion and satisfactory wetting of oily surfaces are encountered. A fully satisfactory non-flammable substitute for the versatile and economical oil-based enamels and lacquers now used as industrial finishes remains to be developed.

"Polka-dot paint" is a new specialty lacquer in which fine droplets of different colored lacquers are suspended in an aqueous medium. The color used in the largest quantity appears as the background when the lacquer is sprayed, while the other colors appear as dots in relief on the surface.

Epoxy resins, used in adhesives and laminating compounds, find their biggest application in coatings. The first U. S. plant went into production in 1947. Output in 1953 was about 10 million pounds, of which approximately eight million went into industrial coatings. Epoxy paints have excellent adhesion, flexibility, and resistance to attack by water and chemicals. Perhaps the largest application is for undercoatings for washing-machine tubs, previously porcelain coated, to provide resistance to the alkali in soap. Another big market is in metal can linings.

Because of their high cost, around 60 cents a pound, epoxies are generally restricted to specialty applications. One, for example, is in packaging products like tomato paste in collapsible aluminum tubes; the coating film does not crack, hence the acid does not attack the metal when the tube is rolled up. Epoxy-based paints are also used to line black-plate steel drums, replacing stainless steel. New applications may double the market for epoxy coatings in the next five to ten years.—*Industrial Bulletin of the Arthur D. Little, Inc.*

Hygrade Metal Finishing Div'n. Edward H. Elliott

The U. S. Hoffman Machinery Corp., New York, has announced the appointment of Edward H. Elliott as representative for its Hygrade Metal Finishing Division in the Philadelphia area.

Elliott, 1620 Murdoch Road, Philadelphia, will serve a territory which will include eastern Pennsylvania, the State of Delaware, and the southern area of New Jersey, according to Revis L. Stephenson, Vice President.

The company's Hygrade Metal Finishing Division produces mechanized metal cleaning and phosphatizing systems and filters, paint booths and bake ovens, chemical plating equipment and electrostatic spray painting apparatus.

THIS book contains much practical and up-to-date information on modern finishing materials, equipment, accessories, supplies, and methods. It has 320 pages, 6x9-in., divided into 31 chapters. Large legible type on high quality white paper, with generous margins and numerous illustrations, make the book easy and inviting to read. Subjects can be easily found either in the table of contents at the front of the book or in the 12 pages of alphabetically indexed subjects at the back.

Chapters I to XXI inclusive deal with materials—paints, varnishes, bleaches, lacquers, enamels, shellac, stain, filler; wrinkle and hammer effect finishes; pearl essence, waxes, flock, masking tape, etc.

The remainder of the book (Section II) contains chapters on finishing methods—spraying, flow coating, roller coating, tumbling, methods of drying, etc. Many references at the ends of chapters give credit for information supplied in articles previously published in Industrial Finishing Magazine.

The book is substantially bound between heavy stiff covers, colored in two tones of light orange and lettered in black. Author of the book is George A. Soderberg, Assistant Professor of Industrial Education, The Stout Institute in Wisconsin.

Price $4.00—Money Back Guarantee

INDUSTRIAL FINISHING

1142 N. Meridian St. Indianapolis 4, Ind.

Check Compatibility Before Mixing Finishes

★ It often happens that a user of industrial finishes wants to mix finishes from two sources in his dip tank. For instance, he may get an improved finish from a new source and want to know if it will mix with his old material. He will probably mix the two coatings on a small scale to test their compatibility. Although running such a test is usually simple there are a number of ways that the layman can go wrong.

First of all, compatibility in the wet means very little. The mere fact that there is no thickening, gellation, or kickout in the wet does not mean that the finishes are compatible. Two coatings that appear to be perfectly compatible when dissolved in solvent often are very incompatible in the dry film.

Secondly, two finishes may be compatible in some proportions, but not in others. For example: If finishes *A* and *B* are mixed in the ratios of 85%*A* 15%*B*, 50%*A* 50%*B*, and 15%*A* 85% *B*, one may find that the first two mixtures are compatible while the third gives an incompatible film.

In some cases (especially when compatibility is borderline) it is not easy to tell if two finishes are compatible or not. The film may show no outward sign of incompatibility such as loss of gloss or obvious loss of film strength. Nevertheless, the two materials may be slightly incompatible and the film may have poorer film

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★ *Guest Editorial . . . Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimulate thought on a live subject. The Editor welcomes guest editorials and pays for those used.*

properties, such as weatherability, than either of the two coatings alone.

It is also possible for two finishes to be compatible when first mixed, but for them to develop slight incompatibility as one or both of them "body" in the dip tank.

If there is any doubt in the mind of the user as to whether or not two finishes are compatible he should have one of his paint suppliers check them. Such confirmation might be a good idea in any case.—*E. V. G.*

Faulty Finish Due to Production Speed-up?

★ Being interested in the finish of various products manufactured, where the finish has considerable to do with "Eye and Sales Appeal", I often stop to examine what is on display. In too many cases recently I have seen a finished product which, because of its poor quality, should never have been placed before the public. The finish should have been rejected, and the product refinished before it left the plant. It is granted that, with our present high rate of production speed, some parts will occasionally get by, even under rigid inspection. However, what I happened to see lately, when I looked over the finish on several 1955 automobiles, makes me feel that maybe something is wrong in some of the automobile plants.

For example, on the first car I looked at, the enamel on one fender had cratered and the primer coat, being of a different color, was showing through. On the same car the hood was lifted to show the engine, and on many places around the sharp edges and rounded surfaces the paint had chipped, due to poor adhesion or brittleness. At several of the marred places corrosion had already started.

On the second car—a different make but higher priced than the first—I noticed many spots that showed signs of the finish blistering, and signs of pinholes. Instead of these imperfections being sanded and properly touched-up, daubs of paint had been applied, resulting in a very poor job. On this same car the chrome plating had blistered and was peeling off.

The finish on the third car showed excessive orange peel. Here again, where small areas of the finish had either been scratched off or chipped, the marred surfaces looked as if they had been touched-up by an amateur. Orange peel was noticeable on several new cars.

The sales manager admitted that these cars had been received in this condition, but he had not noticed the imperfections until I called them to his attention. I believe this would be true with most purchasers. The flaws might not be noticed until someone started to clean the automobile, although some imperfections were easily noticeable at first glance.

Now this isn't the first time that I have noticed the finish on some new

IDEAL TACK RAGS
FOR A PERFECT FINISH
Bulk or Bagged
IDEAL CHEMICAL COMPANY
1499 Dean Drive, South Euclid 21, Ohio

Serving THE SOUTHEAST
• LACQUERS • GLAZES
• SEALERS • PIGMENTED WIPING STAINS
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• TONERS
Complete Technical Service At Your Disposal
SNYDER BROTHERS COMPANY
Manufacturers of Quality INDUSTRIAL LACQUERS
P. O. BOX 548 — TOCCOA, GEORGIA

automobiles being in the condition mentioned above.

I feel that automobile manufacturers have done a fine job streamlining their cars, adding all of the new devices to make driving easier, and adopting two and three tone color combinations—but in some cases the finish coat of enamel or lacquer can stand improvement in appearance.

The sixty dollar question is: Is the speed of production through the various finishing operations such that quality is being sacrificed for speed? —*Mark Stephens.*

Visit to Sam Tour & Co., Inc.

A new "Welcome To" folder has just been prepared by Sam Tour & Co., Inc., an independent research, development and testing laboratory in New York City (44 Trinity Place). In direct, to-the-point, phrases, this new folder answers 12 of the most common questions that enter the minds of clients and prospects.

Free School of Spray Painting

Interested in learning better methods of applying paints and coatings with spray painting equipment, both manual and automatic? Then attend the Binks Mfg. Co.'s free School of Spray Painting. The next sessions will be held at the company's plant in Chicago from: May 2 to May 6, and from June 6 to June 10.

The school is open to anyone interested in, or connected with, the industrial application of paint and coatings. Class members do not require previous experience.

Included in the one-week course is a thorough discussion of paint circulating systems, fluid handling pumps, oil and water extractors, flock equipment, compressors and all auxiliary equipment. Class members operate the equipment, disassemble it, put it back together again, and then conduct tests to see that it is properly adjusted.

Due to the small size of the class, it is important that application for attendance be made as far in advance as possible. This may be done by writing to Mr. E. F. Watts, Binks Mfg. Co., 3122 Carroll Ave., Chicago 12, Illinois.

Permacel Tape Corp's. Dallas Office, Warehouse Moved

The Dallas, Texas Division Office and warehouse of the Permacel Tape Corp., New Brunswick, N. J., manufacturer of Industrial tapes, has moved to 9000 Denton Drive, Dallas 20, Texas.

The Dallas Division Office and Warehouse will handle the complete line of 180 different kinds of industrial tapes manufactured by the Permacel Tape Corporation in servicing its customers in the states of Louisiana, Oklahoma, Arkansas, Texas, New Mexico, Colorado and the Western part of Kansas.

Beckwith-Chandler Tech. Dir.

Mr. Harold H. Flegenheimer has been appointed Technical Director of the Newark Laboratory of the Beckwith-Chandler and Jones-Dabney Divisions of Devoe & Raynolds Co., Incorporated.

Mr. Flegenheimer has been associated with the Newark Division in the Product Development Laboratory since 1947. The Devoe Newark unit manufactures and sells Devran—the remarkable new epoxy resin developed by Devoe—as well as automotive, industrial and marine finishes, and paper and fabric coatings.

PAINT MIXER

MIRACLE PAINT REJUVENATOR

All paint restored to its original consistency without opening the can.

2 minutes per gal.

MIXERS AVAILABLE ¼ PT. to 55 GALS.

MIRACLE PAINT REJUVENATOR COMPANY

128 E. 10th St., St. Paul 1, Minn.

5 GAL. MODEL

Sell Your Employees on Quality Finishing

★ Selling customers on the value of quality finishing has become a standard part of good merchandising. But if that quality is to be maintained and even improved upon, it's urgent that workers in the finishing department should be aware of their responsibility for holding a fair share of the current market.

A factory representative made the statement that the finish was probably the strongest single feature in his line. It may be taken for granted that management and supervisors are keenly conscious of that fact. But how about employees below the level of foreman? Do they realize to what an extent their daily operations affect the prestige, sales and success of their company?

In many cases it is probably true that improvements in finishing would greatly aid sales. Decisions about new equipment or techniques must come from management but before this program goes very far, consultation with all workers involved will bring out two worth-while results. First, some of the workers may have suggestions and ideas valuable enough to be incorporated into the plans. Second, you can certainly count on their interest and cooperation if they feel they had an active part in proposed changes.

Pride in individual workmanship may indeed be on the decline, but it must be kept alive in the finishing department. If something sells well because of its excellent finish, or if a better finish would help to boost sales volume, then it is not enough for management and supervisors to go into conference. Every single worker in the finishing department should be made to recognize his personal responsibility and his opportunity to continue a good record or to improve an "almost good" situation.—*G. Dodson.*

Industrial Fire Schools in '55

One of the top industrial firefighting schools—that of the Ansul Chemical Co. at Marinette, Wis.—has scheduled 12 different 3-day classes for the spring and summer of 1955. The first class is scheduled for May 23-25, and the final one September 19-21.

The courses are open to industrial plant safety personnel, fire marshals, municipal and military firefighters and other interested personnel. Registration is limited to 25 persons in each class, with applications accepted on a first-come basis.

Tincher Products Co. (Sealants for Castings) Moves

Tincher Products Co., manufacturer of equipment and sealants for the impregnation sealing of castings subject to microporosity, has moved its headquarters to 2023 S. 60th St., Milwaukee, Wisc., from Sycamore, Ill. All sales and service for the company's "Imprex" Plastic and Metallic Seals, as well as for sealing equipment, are now handled from the Milwaukee Headquarters. The move consolidates Tincher's production facilities with the established service impregnating facilities operated at Milwaukee for the past three years.

PEARL ESSENCE

"Astralucine Brand"
Produces a high luster
on a variety of finishes
Write for your free copy of our
informative Technical Bulletin.
"Pearl Essence Finishes"
—what they are and how to use them.

Argenta Products Co.
EASTPORT, MAINE

PAINT TESTING LABORATORY
Comparative testing a specialty
PENNIMAN & BROWNE, INC.
Chemists-Engineers-Inspectors
341 St. Paul Place-Baltimore 2, Md.

Pyroxylin Products of Pa. Inc. Organized as Separate Co.

The eastern manufacturing activities of Pyroxylin Products at Paoli, Pennsylvania, has been separated from the parent company and organized as Pyroxylin Products Co. of Pennsylvania, Inc. Mr. Yoder, long associated with Pyroxylin, heads the activities at Paoli. Mr. Gene Hollinger, continues his sales work as assistant to Mr. Yoder.

At Chicago, Mr. Don Getz has recently been promoted to the sales territory comprising Ohio, Indiana and Michigan. Mr. George Tomlin, based in Wichita, continues to handle the Southwest territory. Co-ordination of sales for both factories is under Mr. Charles Fawkes at Chicago. The company produces lacquers and moistureproofing, heatsealing and laminating compositions.

Raffi & Swanson, Inc., to Have New Ultra-Modern Plant

The new ultra-modern, million-dollar plant of Raffi & Swanson, Inc., (Finishes for Industry), will be opened and dedicated on Saturday, May 14, at "open house" observance to which leaders of many industries have been invited.

Occupying more than 15 acres, the 14-building layout is conveniently located in Wilmington, Mass., the site chosen because of its advantage as a distributing point.

CLASSIFIED ADVERTISING

The rate on ads appearing in this department is $1.00 per line of 6-pt. light face type, per insertion. Minimum charge, $5.00. Ads set in 8-pt. extra bold face type cost $2.00 per line, per insertion.

SALESMAN WANTED.

A fast growing southeastern organization is desirous of ambitious and aggressive salesman. Experience preferred but not necessary. Must have at least high school education and experience in furniture finishing. Must have pleasing personality and ability to contact top management. Address IF-317, care Industrial Finishing.

FOR SALE— LIFE-TIME FINISH EXPERIENCE.

35 years' successful experience in laboratory, service, sales management and executive capacities (President of last connection) offered for most substantial and/or reliable offer from makers or large users of industrial finishes, equipment or supplies. Experience with materials, methods and processes runs from appliances and automobiles, through furnaces and furniture or toilet seats and toys, to zinc castings and zoning paints. I can help you make or save money. Address IF-312, care Industrial Finishing.

SITUATION WANTED.

Young experienced industrial finishes salesman would like to join progressive Eastern manufacturer. Resume sent on request. Address IF-311, care Industrial Finishing.

CAN YOU WRITE?

If you can write a letter or simple report on using, servicing or selling finishing materials or equipment, we have an interesting propositioon for you. Address IF-234, care Industrial Finishing.

SALESMAN WANTED.

Experienced salesman of lacquers and industrial finishes with some following. Territory, Southern Indiana, Kentucky, Southwestern Ohio and part of Tennessee. Factory in Chicago. Good opportunity to build on established accounts. Good laboratory cooperation. Liberal commission. Address IF-313, care Industrial Finishing.

INDUSTRIAL SALES ENGINEER.

With sales and engineering experience in spray equipment and related paint accessory lines. Specializing in a complete line of hot spray equipment for all types of production painting, we offer a qualified man an exceptional opportunity with a growing concern in an important industrial territory. See our advertisement in this issue, page 63. Direct your inquiry to Sales Manager, THE SPEE-FLO MANUFACTURING CORP., 720 Polk, Houston, Texas.

SALESMAN WANTED.

Excellent opportunity for experienced industrial finishes salesman by progressive New England manufacturer. Man with following preferred, to cover New York state or New England. Salary plus liberal commission. Address IF-314, care Industrial Finishing.

SALES REPRESENTATIVES.

Established New Jersey manufacturer with complete line of industrial finishes has openings in Boston and Western New York state areas. This is an excellent opportunity with an expanding "live wire" organization. Address IF-315, care Industrial Finishing.

SALESMAN—INDUSTRIAL FINISHES.

Well established and expanding manufacturer in the Newark area will consider an experienced man with proven record of achievement selling industrial finishes. Our proposition and an exceptional opportunity for security and high earnings allow us to insist on highest qualifications. Open territory. Excellent lab cooperatioon. Answer in detail. Replies confidential. Address IF-290, care Industrial Finishing.

PAINT & WALLPAPER STORE CALIFORNIA.

In show place located between San Francisco and Los Angeles on ocean. Prospering business for six years producing net income in excess of $16,000 per year. If desired, a partner deal could increase sales greatly. Owner selling all fixtures, rental equipment and good will for $15,000—plus stock of about $7500.

Excellent reason for making sale. Figures available for past years showing exact earnings. Deal must be for cash. Address IF-316, care Industrial Finishing.

WANTED.

"RECLAIM" Enamel, high quality, urgently needed, quantities up to 50 drums per month required by Wisconsin Industrial Finishes Distributor. Address IF-309, care Industrial Finishing.

WANTED TO BUY.

Will buy your dirty Thinners and Solvents. Send samples or letters giving approximate contents and solids. Address THE JOHANN CO., 8547 S. Ashland Ave., Chicago, Ill.

FORD CUPS

THE VOL-U-METER COMPANY

Buffalo 16, N. Y.

PAINT STRAINERS

For straining lacquers, enamels, paints. Made of heavy paper with cloth inserts in different meshes. 6-in. diameter conical shape. Write for catalog and samples. GERSON CO., Box 175, Mattapan 26, Mass.

FOR SALE.

A new No. 32B Gasway Coater with soft coating roll and also a new No. 32G Paint Pump. SAUDER WOODWORKING CO., Archbold, Ohio.

FOR SALE.

5 Model U Bede Circulating Paint Heaters. Good condition. THE ATLANTA STOVE WORKS, INC., P. O. Box 54, Station E, Atlanta, Georgia.

BARGAINS IN FINISHING EQUIPMENT

Gas Baking Oven, 10' x 10', with "Rapidry" Air Heating System, Automatic Controls.
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R. C. Mahon Spray Booths with Blower, Pump, Filter, Turntable, Etc.
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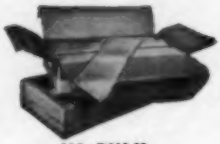

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